

Profits  
to Be Had From Passengers—p. 52

How Wide Should a Car Door Be? ... p. 38

# RAILWAY AGE

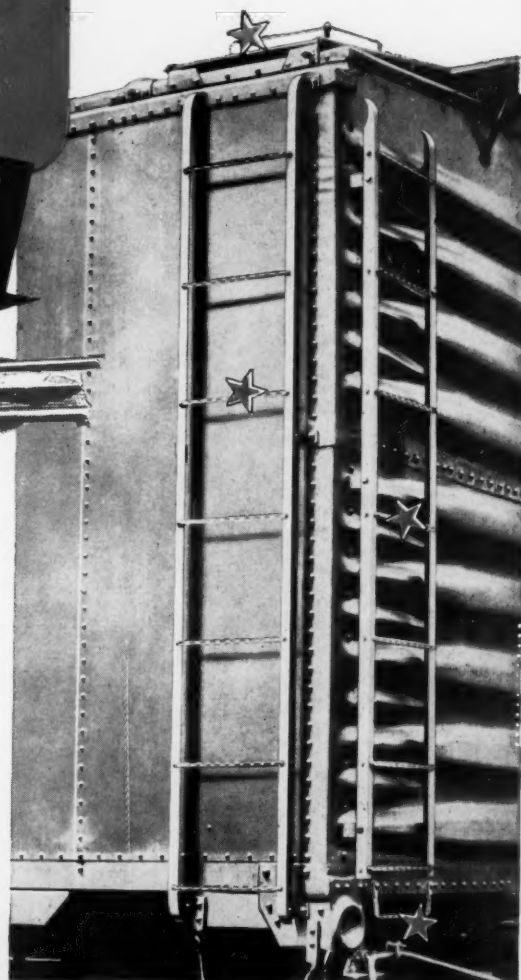
MAR. 25, 1957 • THE INDUSTRY'S NEWSWEEKLY

**GREATER** *All-weather*  
**SAFETY**  
*for the trainman...*

WITH  
THIS  
GRIP



*"Safe-Grip"*



**LADDERS and HANDHOLDS**

THE WINE RAILWAY APPLIANCE CO. • TOLEDO 9, OHIO



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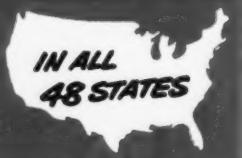
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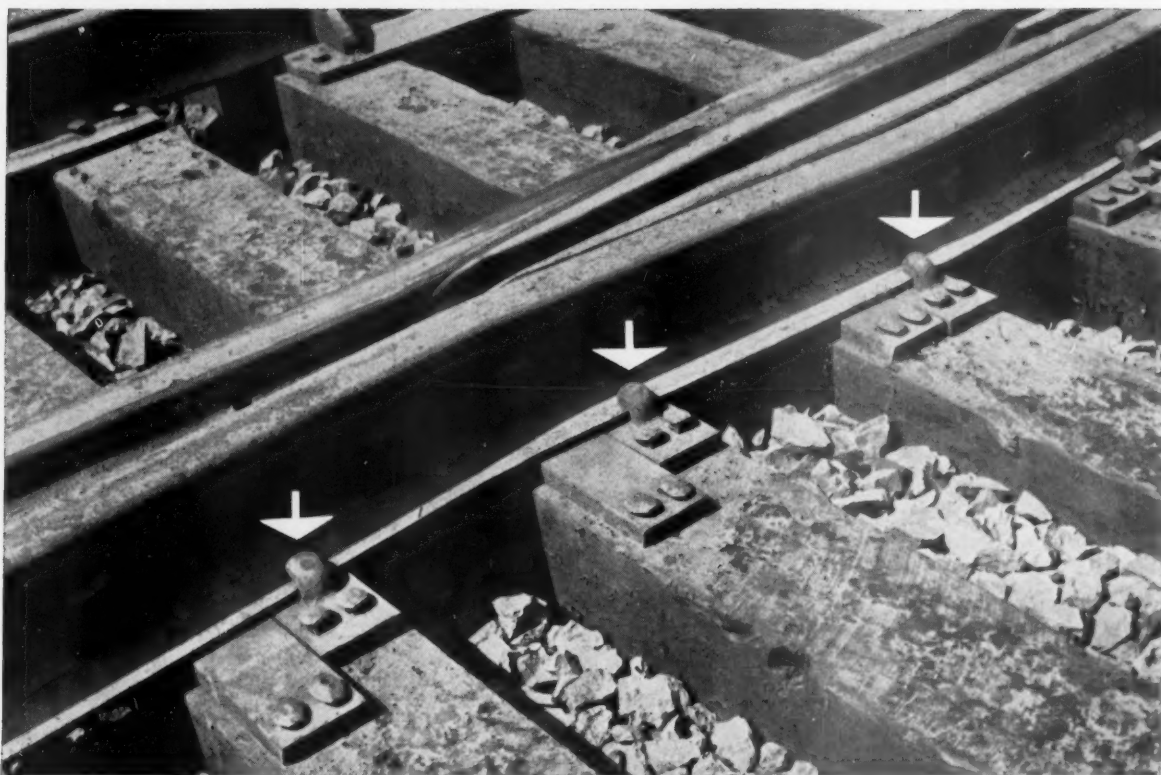
The Texas Company, *Railway Sales Division*, 135 East 42nd Street, New York 17, N. Y.



**TEXACO** Railroad Lubricants  
AND SYSTEMATIC ENGINEERING SERVICE



TUNE IN . . . METROPOLITAN OPERA RADIO BROADCASTS EVERY SATURDAY AFTERNOON



## Anchoring Frogs and Switches with Hook Twin Tie Plates

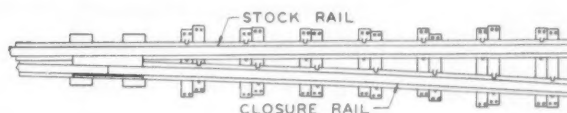
The Bethlehem Hook Twin Tie Plate is a rolled-steel plate with spike holes punched to admit track spikes. At the "business" end of the plate is a husky forged hook which engages the base of the rail or frog in much the same manner as the offset head of a rail spike.

But this hook is larger and stronger than a standard spike head, providing greater bearing on the rail base. Further, because hook and tie plate are integral, the "wave" motion of the track is spread over a broader area of the tie. Thus the track spikes which anchor the plate to the tie are freed from direct pull, and the tie itself is protected from early killing.

Bethlehem Hook Twin Tie Plates are designed to be used in pairs, side by side on the ties. Any pair of Hook Twins can be adapted to almost any position in any frog installation. For this reason it is rarely necessary to store more than three or four lengths of Hook Twin Tie Plates, a welcome feature from the standpoint of your stores personnel.

Reverse-hook plates, either in pairs or in combination with standard hook plates, can be effectively used to counteract thrust at heel-ends of frogs or switches.

Hook Twin Tie Plates can also improve the anchoring of tongue switches and mates, graduated riser switches, tee guard rails and low-angle crossings.



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Hooks may be specified "low" for contacting rail bases, or "high" for cast manganese sections. The most popular lengths are 23, 27, 31, and 35 in., in thicknesses of  $\frac{3}{4}$ ,  $\frac{7}{8}$ , and 1 in.; all plates are 4 in. in width. The Bethlehem office nearest you will be glad to send you our illustrated Folder 613 on this subject, or to arrange for a representative to discuss details with you.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation, Export Distributor; Bethlehem Steel Export Corporation

# BETHLEHEM STEEL



- Suez crisis has pointed up petroleum-availability problem and has even caused price rises in U. S.
- Increased cost of diesel fuel — and possibility of short supply — makes even more important railroads' search for ways to cut consumption.
- ALCO locomotives offer to railroads significant fuel savings now.

# YOU GET THE MOST POWER PER GALLON FROM ALCO LOCOMOTIVES

Last year U. S. railroads burned well over 3½-billion gallons of diesel fuel and paid \$350 million in diesel fuel bills. In figures of that size any saving is significant. ALCO locomotives provide that saving because they use diesel fuel more efficiently. ALCO's modern turbocharged four-cycle diesel engine and advanced electric transmission get the most ton-miles per gallon of fuel.



**ALCO**

**ALCO PRODUCTS, INC**

**NEW YORK**

Sales Offices in Principal Cities

Vol. 142, No. 12  
March 25, 1957

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PAID CIRCULATION THIS ISSUE ...14,667

## CONTENTS and Week at a Glance

### 'Strange bulldogs' find feuds don't pay ..... p. 9

But working together does. That explains the new harmony in maintenance-of-way and operating department relations.

### No crutch for limping RRs in mail pay ..... p.10

Latest exchange in the P&LE-postal service embroglio draws that information from the Post Office. Barriger sells RPO cars.

### How wide should a car door be? ..... p.38

Canadian National prototype car fills the bill whether a shipper wants a 15 ft 6 in. opening—or one just 5½ ft wide. Hinged folding panels do the trick.

### Long sidings lick long grades ..... p.40

Most meets are made non-stop—even on 1.9% grades—on the SP's Colton-Yuma line. CTC innovations and sidings up to 7 miles long make it possible.

### Sugar shipped dry unloads like syrup ..... p.44

New device which blends sugar with water at destination permits long-distance shipments to consignees who prefer it in liquid form.

### From ACF—Report on the 'Talgos' in Spain .... p.45

After 7 years and a million miles, they're "like new." Preventive maintenance keeps parts replacement down. Even at extra fares, they run 90% full.

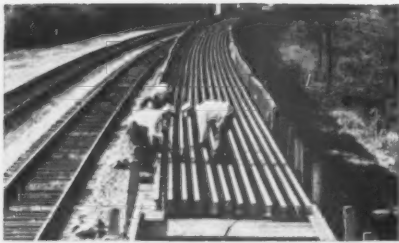
### The Action Page—Passenger profit possibilities . . p.52

This should be the year to drain the red ink from passenger service and get traffic and earnings going up.

## SHORT AND SIGNIFICANT

### U.S. steelmaking capacity . . .

reached an all-time high during the past year, says Benjamin F. Fairless, president of the American Iron & Steel Institute.



## Why there's much less wait for freight today

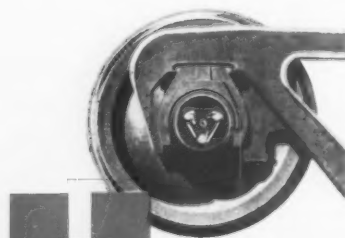
ONE REASON IS WELDED RAIL. Many will miss the rhythmic "clickity-clack" of wheels on track. But by eliminating troublesome bolted rail joints, welding helps trains roll smoother and faster, with far fewer delays due to track maintenance work.



Watch "WIDE WIDE WORLD"  
Sundays on NBC-TV

ONE MORE BIG REASON IS HYATT HY-ROLL BEARINGS for non-stop freight. No need to delay *this* car for bearing inspection or lubrication—he can see at a glance they're dependable HYATT Hy-Rolls! That means there's a 3-year lubricant supply sealed in. It means no more hotboxes. It means husky *straight cylindrical rollers* with extra load-carrying capacity for extra reliability. That's why 38 leading lines have already adopted the HYATT Hy-Roll as a basic part of their modernization programs—to help give America even faster freight service. Hyatt Bearings Division of General Motors Corporation, Harrison, N. J.

Another  contribution to railroad prosperity



# HYATT

## HY-ROLL BEARINGS

FOR NON-STOP FREIGHT

# RAILWAY AGE The Industry's Newsweekly

## Current Statistics

Operating revenues, one month	
1957	\$855,565,473
1956	831,707,466
Operating expenses, one month	
1957	\$688,578,802
1956	661,569,057
Taxes, one month	
1957	\$86,726,000
1956	85,261,302
Net railway operating income, one month	
1957	\$58,266,229
1956	62,724,641
Net income estimated, one month	
1957	\$44,000,000
1956	47,000,000
Average price 20 railroad stocks	
March 19, 1957	88.63
March 20, 1956	104.60
Carloadings revenue freight	
Ten weeks, 1957	6,557,494
Ten weeks, 1956	6,872,004
Average daily freight car surplus	
Wk. ended Mar. 16, 1957	5,790
Wk. ended Mar. 17, 1956	3,923
Average daily freight car shortage	
Wk. ended Mar. 16, 1957	1,731
Wk. ended Mar. 17, 1956	4,606
Freight cars on order	
March 1, 1957	111,965
March 1, 1956	141,437
Freight cars delivered	
Two months, 1957	15,477
Two months, 1956	9,080
Average number railroad employees	
Mid-February 1957	988,664
Mid-February 1956	1,041,458

## ADVERTISING SALES DEPARTMENT

New York 7, N.Y., 30 Church st., WO-4-3060  
C. W. Merriken, J. S. Vreeland, vice-presidents, F. T. Baker

Chicago 3, Ill., 79 W. Monroe st., RA-6-0794  
J. R. Thompson, vice-president, J. W. Crossett, J. D. Dolan, W. J. Gatenby

Cleveland 13, Ohio, Terminal Tower,  
MA-1-4455, H. H. Melville, vice-president  
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Lakeside 2322, Joseph Sanders

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MA-6-0553, Fred Klaner, Jr., B. J. Erickson

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GA-1-7004, Lewis Vogler

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IN U.S., U.S. POSSESSIONS, CANADA AND MEX-  
ICO, \$4 ONE YEAR, \$6 TWO YEARS, PAYABLE  
IN ADVANCE AND POSTAGE PAID, TO RAIL-  
ROAD EMPLOYEES ELSEWHERE IN THE WEST-  
ERN HEMISPHERE, \$10 A YEAR; IN OTHER  
COUNTRIES, \$15 A YEAR—TWO-YEAR SUBSCRIP-  
TIONS DOUBLE ONE-YEAR RATE. SINGLE COP-  
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SUBSCRIPTIONS WRITE R. C. VAN NESS, CIRCUL-  
ATION DIRECTOR, 30 CHURCH ST., NEW YORK 7.

## Week at a Glance CONTINUED

The new annual capacity—133,459,150 tons as of January 1—means this country can now produce over 40% of the world's output, he said.

### Erie—DL&W coordination—commuter phase . . .

got going this week with all Erie commuter trains terminating in the Lackawanna terminal at Hoboken (Railway Age, Apr. 16, 1956, p. 36). Erie ferry slip in Manhattan was also dropped from commuter service with enlarged DL&W fleet of trans-Hudson boats taking entire load. The two roads anticipate savings of \$2 million from this cooperative venture.

### 'RR man of the year' . . .

is Harry G. Adams, Illinois Central conductor, says the Federation for Railway Progress. Mr. Adams, a railroader for 58 years, has spent his entire career with the IC. He will receive a \$100 savings bond and a gold St. Christopher's medal at ceremonies in Washington next month. The award is presented by the FRP each year to a railroad employee who has distinguished himself for continuous and outstanding courtesy and service to the traveling public.

### A shipboard annual meeting . . .

is coming up for Chesapeake & Ohio stockholders on April 25. Last year they met in a freight yard. This year's meeting has been planned so stockholders may inspect the road's Newport News, Va., terminal facility with its vital coal and merchandise traffic.

### A mechanical-drive freight diesel . . .

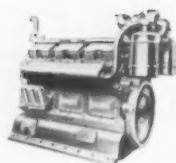
is being engineered by Baldwin-Lima-Hamilton. Development of the 1,800-hp, all-purpose unit is based on what the manufacturer calls the "gratifying" performance of the Baldwin-built unit that hauls the New York Central's "Xplorer." That unit has an unusually light engine and mechanical hydraulic drive.

### More market research . . .

is in prospect on eastern railroads. Erie President Von Willer says a "market research organization" will be set up within the next month as a tool to help eastern carriers analyze their markets and sales.

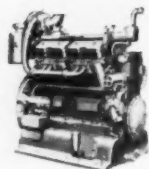
# MODERN HEAVY-DUTY CAT\* DIESELS FOR RAILROAD USE

**D397**  
with  
Turbocharger  
**650 HP†**



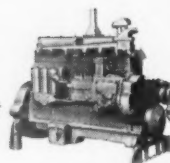
Also a Roots blown, naturally aspirated or spark-ignition engine; electric set or torque converter power unit. Air, electric or gasoline starting.

**D375**  
with  
Turbocharger  
**430 HP†**



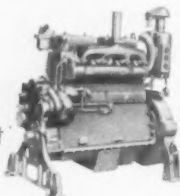
Also a Roots blown, naturally aspirated or spark-ignition engine; electric set or torque converter power unit. Air, electric or gasoline starting.

**D342**  
Naturally  
Aspirated  
**210 HP†**



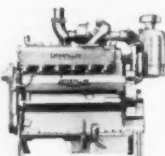
Also available as an electric set. Choice of air, electric or gasoline starting system.

**D339**  
Naturally  
Aspirated  
**140 HP†**



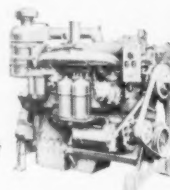
Choice of air, electric or gasoline starting system.

**D337**  
with  
Turbocharger  
**310 HP†**



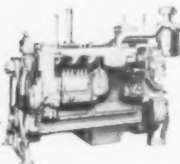
Also available as an electric set or torque converter power unit. Choice of air, electric or gasoline starting system.

**D326**  
Naturally  
Aspirated  
**200 HP†**



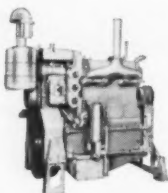
Also available as an electric set or torque converter power unit. Choice of air, electric or gasoline starting system.

**D318**  
Naturally  
Aspirated  
**137 HP†**



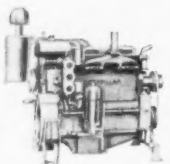
Also available as an electric set or torque converter power unit. Choice of air, electric or gasoline starting system.

**D315**  
Naturally  
Aspirated  
**91 HP†**



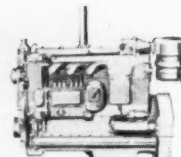
Also available as an electric set or torque converter power unit. Choice of air, electric or gasoline starting system.

**D311**  
Naturally  
Aspirated  
**65 HP†**



Also available as an electric set. Choice of air, electric or gasoline starting system.

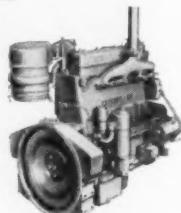
**NEW**  
**D318**  
(Series G)  
Turbocharged  
**175 HP†**



## Smaller, Lighter, Lower Priced!

Keeping in line with Caterpillar's continued diesel leadership are these new Series G engines. They are designed for use in installations where space is at a premium. Both are small, light and low-priced; yet they deliver dependable power with the renowned Caterpillar durability. Both are available naturally aspirated (shown here) or turbocharged. Choice of air or electric starting system.

**NEW**  
**D315**  
(Series G)  
Turbocharged  
**115 HP†**



## Electric Sets

Dependable electric power, featuring the new Cat Generator, available in standard voltages, 60-cycle, in the following KW sizes: 30, 40, 60, 100, 150, 165, 200, 225, 250, 315, 350. Also available as 50-cycle and DC units.

## Torque Converter Power Units

Many different arrangements are available for each of six Cat Engines. Wide choice of power units and wide choice of output shafts.

† maximum output capacity

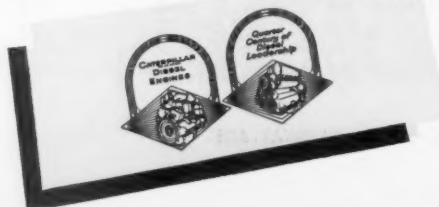
In its quarter century of diesel leadership, Caterpillar research has been responsible for advance after advance in the efficiency of these engines. The units you see here incorporate the latest diesel developments—a modern heavy-duty line that offers you hundreds of various power packages to meet your requirements for locomotives, rail cars, work cranes, excavators and many other types of on-track and off-track equipment. Leading manufacturers can supply them in the locomotives and equipment they build. Cat Engines are available up to 650 HP (maximum output capacity) and Electric Sets up to 350

KW (continuous duty). For complete information about them, see your Caterpillar Dealer.

Caterpillar Tractor Co., Peoria, Illinois, U. S. A.

# CATERPILLAR\*

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## M/W AND OPERATING MEN SHOW . . .

# How Cooperation Lowers Costs

"If he had his way," the division engineer said, "we'd get the track for maybe an hour a month!"

Object of the comment, the division dispatcher didn't hesitate to reply. "All that guy knows about," he said, "is 'nuts and bolts.' I wonder where he thinks his paycheck would come from if we delayed and detoured all the trains he'd like us to?"

This kind of talk has been going on for years; the maintenance-of-way man feels the operating people have no conception of the need for reducing track-maintenance costs, and the operating man has been just as certain that M/W people don't know the first thing about running a railroad.

As track-maintenance costs began their spectacular rise following World War II, it became more important than ever, in the eyes of track men, to get more uninterrupted use of the tracks when performing heavy maintenance jobs. At the same time, both sides—M/W people on one hand and operating departments on the other—began to realize that profits aren't made by bickering.

Bit by bit the prejudices and ill will are disappearing, giving way to a deeper appreciation of the need for more cooperation between departments. Take, as an example, the situation on the Richmond, Fredericksburg & Potomac. "We used to act like a bunch of strange bulldogs," says Chief Engineer J. C. DeJarnette about the track and operating forces. But that's all changed now, he added.

With the cooperation of the operating department, trains are regularly routed around the larger track gangs in double-track territory. And further improvement will take place when a project is completed for installing reverse signaling on both main tracks. Then, he said, the problem of detouring trains around track gangs will be much simplified.

Another instance of the modern trend toward profitable cooperation was cited by the assistant chief engineer of a large road. He noted that his road, in some instances, is now "bunching" revenue trains at night to allow more on-track time for maintenance gangs during the day. He

described one situation in which three manifest freights were sent over a passenger route so that track gangs working on the main freight line would have more productive, delay-free time there. The arrangement worked fine, he said. The operating department even discovered one of the three trains was making better time over the alternate route than it had on its regular run!

For the most part, it is realized, the operating departments must have complete control over track occupancy. Often, however, a track maintenance operation may be delayed to prevent a relatively inconsequential delay to a train of minor importance. This is where closer inter-departmental cooperation reaps its greatest rewards.

In a committee report to last year's annual meeting of the American Association of Railroad Superintendents, the solution to the problem was summed up in these words: "It is the obligation of maintenance-of-way supervisory people to keep dispatchers informed in advance of their plans and needs; the obligation of dispatchers is to keep maintenance-of-way people informed as to prospective train movements; and then for them together to weigh relevant advantages and jointly agree and decide on the best *modus operandi*."

The process of weighing "relevant advantages" can be rather tricky, railroads have found out. Some advantages can be measured in dollars and cents—others in hours and minutes. Some, however, are completely intangible, and, as the Superintendents' report puts it, are "visible only under the scrutiny born of experience and knowledge of local operating conditions."

Through studies of the problem, railroads have found many opportunities for improving their M/W efficiency and simultaneously preventing delays to train operation. For example, changes are made in the starting times of work trains, local freights, or road switchers, so one does not interfere with the other.

Recent improvements in the machinery and methods used in M/W

work have had a profound effect upon the "weighing of advantages." The new machinery is expensive, but it's capable of reducing costs to an important degree, say track men, if the gangs using it are given uninterrupted use of the track for reasonable periods of time. Both track men and operating departments agree that optimum results are obtained when trains are detoured around track gangs.

An expedient that has proved helpful on several railroads has been the installation of temporary crossovers at the ends of detour sections.

Both track and operating men agree the "detour" system is fine—for multiple-track territories. But what about single track? How far can operating officers be convinced they should go in arranging train schedules



## School's in Session

D. R. Lewis (left), vice-president and general manager of the Pacific Electric, and V. L. Arenth, assistant freight traffic manager of the Southern Pacific, as they recently boarded the SP's "Golden State" at Los Angeles en route to the current Advanced Management Program of the Harvard School of Business Administration.

for the convenience of track gangs? The cooperation here has been slower in coming and hasn't gone as far.

In this sphere, track forces on many roads are still pretty much on their own. By various expedients—radio communications, provision of frequent set-off locations, and careful scheduling of the work day—they're making progress in getting more on-track time for their forces.

**Dieselization**, too, has increased demands for closer cooperation between M/W and operating departments. There once were surplus "pockets" of steam motive power scattered about a system; with pooling of power a

standard procedure, this spare power has disappeared.

As a result, there often isn't anything available to haul a work train. Railroad management is reluctant to invest in motive power which would be used in M/W service during the summer and, perhaps, be idle in the winter. Consequently, there are occasions when work trains are furnished only when traffic fluctuations permit. This, railroads point out, is hardly conducive to M/W efficiency since it makes advance planning of work-train operation virtually impossible.

This work-train problem is being at-

tacked from several directions—in ways which again reflect "work-togetherness." One plan involves Sunday operation of work trains to take advantage of the fact that, on many roads, local freights, mine and quarry runs, etc., normally do not operate on Sundays, thus creating a motive power surplus.

This mode of work-train operation has proved economical, even in the face of punitive pay for M/W employees and train crews. How? Increased production, due to less interference with their work, allows the gangs to get in more actual work per M/W dollar.

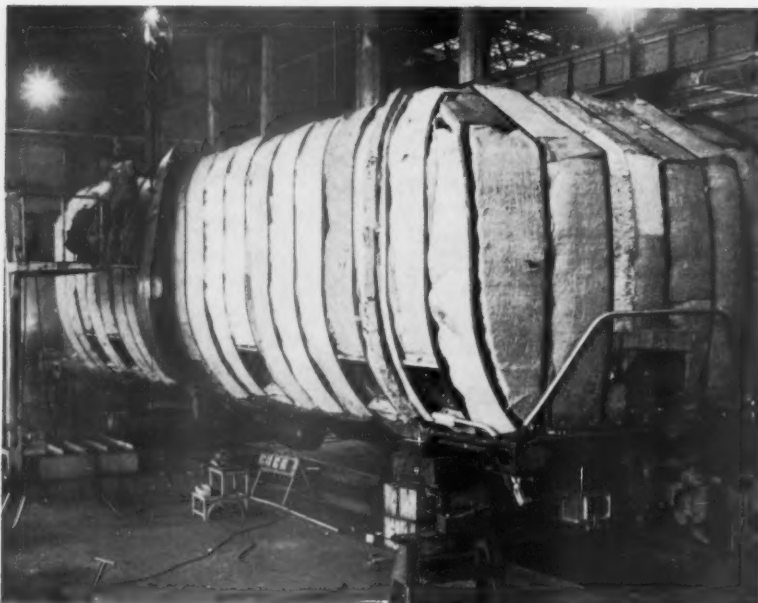
## P.O. Taboos Subsidies in Mail Pay

Postal officer says duty to public overrides keeping mail on rails when service deteriorates—P&LE sells four mailbaggage cars idled by postal diversion

Railroad mail contracts can't be used to subsidize unprofitable passenger-train operations which don't provide adequate postal service.

That's the gist of a recent Post Office Department letter to Pittsburgh

& Lake Erie President J. W. Barriger. Mr. Barriger is involved with postal officials over the transfer of the Cleveland-Pittsburgh mails from the railroads to truckers (Railway Age, Feb. 25, p. 12, and Feb. 11, p. 10).



### Union Pacific Turbine Tender Takes Shape

Converted steam locomotive tenders such as this one will carry 25,000 gallons of treated Bunker C fuel oil for 15 8,500-hp gas turbine-electric locomotives being built for the Union Pacific by General Electric. The road's Omaha shop is wrapping the tanks in

glass wool insulation and installing steam and electrical heating elements to keep the heavy fuel warm. Similar tanks are used by the 25 4,500-hp turbines already in service to keep the engine's internal tank full and its weight on drivers constant.

Assistant Postmaster General E. G. Siedle told Mr. Barriger that the Post Office Department is torn between dual loyalties to the public and the railroads.

"Should we," he asked, "through payments for mail transportation, aid railroads to continue operation of passenger trains that otherwise have become unprofitable, and which no longer give us the mail service we need, or should we use other means of transportation and thereby give the American people the benefit of more expeditious and economic mail service?"

"We appreciate that withdrawing the mail can pull the last prop from under a passenger train that long since has proven to be a losing venture." But, Mr. Siedle added, the Post Office "has difficulty in persuading the public that they should be inflicted with inferior postal service just to keep those trains in operation."

Mr. Siedle, rebutting Mr. Barriger's earlier assertions that the prime issue in the switch to highway service was a difference in rates, insisted that the difficulty was service and that the P&LE had been notified of the Post Office Department's dissatisfaction.

In reply to this, the P&LE president reiterated his stand that the "unwill- ingness of railroads to make rate concessions" led to diversion of the service.

He further stated that "there is an element of unfairness . . . in the current dealings of the Post Office Department with the railroads on the matter of competitive rates . . . Competitive bidding is a fine principle, but is it not fair to conduct it under conditions where only the competitors of the railroads may improve their position" by reason of the railroads' statutory obligation to move the mails.

Following this letter, Mr. Barriger

informed Postmaster General A. E. Summerfield that the P&LE had been forced by the diversion of mail business to sell four mail-baggage cars (to the Quebec, North Shore & Labrador).

Mr. Barriger said such action will be repeated elsewhere in the country "unless you take prompt and effective steps to arrest and reverse the actions of your bureau of transportation."

Mr. Summerfield's reply, however, supported his staff. "Frankly," he stated, "I do not see how we could have justified meeting the situation in any other manner. Nor do I see how we can fail to meet similar situations in the same way in the future. We have a responsibility to the public to move the mails as expeditiously as we can and as economically as we are able."

## Express Can't Compete, Let Post Office Take It: PRR

In the face of continuing deficits from railway express operations, the Pennsylvania last week expressed doubt that the Railway Express Agency "can ever compete successfully with government-subsidized parcel-post service."

A policy statement in PRR's 1956 annual report said express rates should be increased immediately. Over the long run, however, the road takes the position that the only "permanent and economic solution is for the government to acquire and operate railway express business as part of its parcel-post business."

Mail handling, too, is a deficit operation, the PRR said, because pay to railroads hasn't kept pace with costs and because diversion to other carriers leaves railroads to move the burdensome high-cost low-revenue leftovers.

The policy statement said continuation of direct help to other forms of transportation compels PRR to advocate "equalization" via tax exemption for passenger tracks and stations; aid for rail commuter services comparable to that given for local highways and streets, and "fair prices" for handling federal freight and mail.

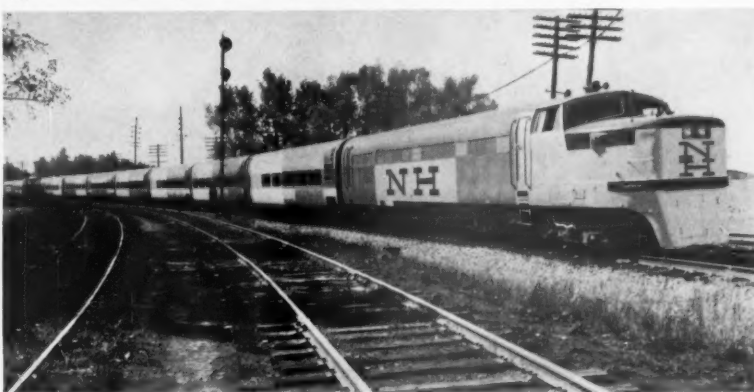
Reiterating its position on passenger business, the PRR said it wants this business wherever it can be maintained without loss. Where there are sufficient passengers willing to pay fares to make this possible, the road will "do everything we can to improve the comfort and attractiveness of the service." On the other hand, where communities insist on service, regardless, they should share the cost of providing it, the policy statement contended.



## Two of NH Lightweight Trio Go into Pay Service

Revenue runs for these two lightweight New Haven trains were scheduled to start this week. ACF Talgo-type "John Quincy Adams" (above)

and Pullman-Standard "Dan'l Webster" (below) replace older equipment. Budd-built "Roger Williams" will be introduced soon.



## '57 Outlays Seen at \$1.4 Billion

Class I line-haul railroads now expect to make gross capital expenditures this year of about \$1.4 billion. Topping the 1956 outlays by about 15%, that would approach, and might well exceed, the all-time high of \$1,413,995,000 reported for 1951.

The 1957 estimate was reported by the ICC's Bureau of Transport Eco-

nomics and Statistics as \$1,364,021,660, but that did not include returns from five roads which made 1956 capital expenditures totaling \$41,686,859. The accompanying table, from the bureau's "Transport Economics," compares 1956 figures with the estimates for this year's first quarter and first half.

ACTUAL AND ESTIMATED GROSS CAPITAL EXPENDITURES OF CLASS I RAILWAYS, FIRST SIX MONTHS OF 1956 AND 1957

Period	Number of roads	Road	Equipment	Total	Road	Percentage distribution Equipment
Actual:						
1st half 1956	116	\$171,495,943	\$451,279,900	\$622,775,843	27.5	72.5
1st half 1956*	111	166,320,647	443,985,263	610,305,910	27.3	72.7
Estimated:						
1st quarter 1957	111	88,640,162	270,644,829	359,284,991	24.7	75.3
2nd quarter 1957	111	106,089,601	282,862,230	388,951,831	27.3	72.7
1st half 1957	111	194,729,763	553,507,059	748,236,822	26.0	74.0
Percent of increase:						
1st half 1957						
1st half 1956	111	17.1	24.7	22.6		

\*Excludes figures for 5 roads which did not furnish 1957 estimates.



## remember him?

Chances are you saw him in one of our recent Hertz advertisements. He told readers of the country's leading magazines about The Hertz Idea. How it saves him time on business trips . . . helps him get home sooner.

Here's the way it works. We encourage readers to leave their own cars at home and go by fast, comfortable train. Then, at their destination, rent a sparkling, New Powerglide Chevrolet Bel Air or other fine Hertz car. They can use the car there . . . or . . .

enjoy the added convenience of Hertz "Rent it here . . . Leave it there" service—now, *nation-wide at no extra charge* (on rentals of \$25.00 or more). They can drive the car to a Hertz office in another city, leave it, then get back on a train and complete their trip.

What's The Hertz Idea mean to you? *More business! More repeat business, too!* Once your passengers try the combination of rail-auto travel, they'll use it again and again.

Your ticket agents also can profit. Hertz pays 10% commission of the total rental fee for every Hertz car they reserve. And to work even more closely with you, Hertz has counters and direct "Call a Car" phones in more and more terminals.

How can you help? Mention the idea of renting a car in *your* advertising! Let's work together! For more information and free promotional material, write: Hertz Rent A Car, 218 South Wabash Ave., Chicago 4, Illinois.



More people by far...use  
**HERTZ**  
Rent a car

# MARKET OUTLOOK THIS WEEK

## Loadings Rise 2.5% in Week

Loadings of revenue freight in the week ended March 16 totaled 689,226 cars, the Association of American Railroads announced on March 21. This was an increase of 16,840 cars, or 2.5%, compared with the previous week; an increase of 3,243 cars, or 0.5%, compared with the corresponding week last year; and an increase of 38,302 cars, or 5.9%, compared with the equivalent 1955 week.

Loadings of revenue freight for the week ended March 9 totaled 672,386 cars; the summary, compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CAR LOADINGS			
For the week ended Saturday, March 9			
District	1957	1956	1955
Eastern .....	115,833	119,127	115,229
Alleghany .....	135,651	140,749	125,049
Pocahontas .....	62,763	60,041	50,891
Southern .....	120,453	133,003	129,313
Northwestern .....	75,412	72,470	72,119
Central Western .....	111,421	114,681	112,863
Southwestern .....	50,853	57,530	56,819
Total Western Districts .....	237,686	244,581	241,801
Total All Roads .....	672,386	697,601	662,283
Commodities:			
Grain and grain products .....	54,328	45,172	43,640
Livestock .....	5,745	6,877	6,616
Coal .....	131,448	128,653	112,887
Coke .....	13,233	13,334	10,565
Forest Products .....	39,426	45,150	43,823
Ore .....	23,433	22,334	15,745
Miscellaneous .....	58,026	63,392	64,466
Miscellaneous .....	346,747	372,679	364,541
March 9 .....	672,386	697,601	662,283
March 2 .....	703,984	710,976	653,575
February 23 .....	626,636	687,018	631,072
February 16 .....	675,966	698,319	650,248
February 9 .....	665,251	684,328	638,788
Cumulative total, 10 weeks .....	6,557,494	6,872,004	6,376,317

**IN CANADA.**—Carloadings for the seven-day period ended March 7 totaled 73,635 cars, compared with 74,146 cars for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
March 7, 1957 .....	73,635	35,530
March 7, 1956 .....	77,125	35,760
Cumulative Totals:		
March 7, 1957 .....	667,981	304,524
March 7, 1956 .....	718,259	329,457

## New Equipment

### FREIGHT-TRAIN CARS

► **February Orders Up, Deliveries Down.**—New freight cars ordered in February totaled 6,065, compared with 5,328 last January and 1,675 in February 1956, ARCI and AAR report; new freight cars delivered last month totaled 7,655, compared with 7,822 last January and 4,881 in February 1956; March 1 backlog was 111,965, compared with 114,656 on February 1 and 141,437 on March 1, 1956.

Type	Ordered Feb. '57	Delivered Feb. '57	On Order Mar. 1, '57
Box—Plain .....	2,400	2,448	33,923
Box—Auto .....	0	622	748
Flat .....	194	30	3,446
Gondola .....	605	783	11,235
Hopper .....	2,032	2,327	39,108
Covered Hopper .....	304	251	8,531
Refrigerator .....	0	382	4,340
Stock .....	0	0	0
Tank .....	480	447	8,234
Caboose .....	50	6	152
Other .....	0	359	2,248
<b>TOTAL .....</b>	<b>6,065</b>	<b>7,655</b>	<b>111,965</b>
Car Builders .....	1,865	4,576	51,852
Company Shops .....	4,200	3,079	60,113

► **Chicago Great Western.**—Ordered 15 19,000-gal tank cars, ACF Industries, for delivery next July or August; cost \$180,000.

► **Union Tank Car Co.**—Ordered 22 10,000-gal. and two 8,000-gal tank cars from its own shops for delivery in fourth quarter of 1957.

## New Facilities

► **Cotton Belt.**—Will spend \$1,053,480 in 1957 to build new freight station at Pine Bluff, Ark., and to relay 27.9 miles of main track and turnouts with heavier rail.

► **Delaware & Hudson.**—Authorized installation this year of radio communication in its Oneonta, N.Y., and Mechanicville yards at estimated cost of \$33,712; at Oneonta, one land station will be installed equipped for yard and road frequency—eight engines will be equipped with radios, and “walkie-talkie” sets will be provided for land crews—one radio-equipped automobile is also in the program; at Mechanicville, radio communication will be installed with one land station—three engines will be equipped and “walkie-talkie” sets will be provided for yard crew.

► **Illinois Central.**—Will convert its Paducah shops to repair and rebuild diesel locomotives; complete conversion from steam locomotive work expected in about two years.

► **Nashville, Chattanooga & St. Louis-Louisville & Nashville.**—Ordered retarders and signaling equipment from Union Switch & Signal-Division of Westinghouse Air Brake Company for completely automatic classification yard at Atlanta, Ga.



**REPORT TO EMPLOYEES:** At the Norfolk & Western's 32nd Better Service Conference, President R. H. Smith makes his annual report to representatives of "the people who actually operate the railroads." Seated, left to right, are these other

N&W officers: F. S. Baird, vice-president in charge of traffic; Walter L. Young, chief engineer; H. C. Wyatt, vice-president and general manager; L. C. Yates, general claim agent; and S. T. Saunders, executive vice-president.

## N&W Plans Its Biggest Capital Outlays

The Norfolk & Western's 1957 capital expenditures will exceed "by several million dollars" the \$62 million spent last year. The latter was 70% more than the road ever before spent in one year for capital improvements.

This was revealed by N&W President R.H. Smith in his report to employees attending the road's 32nd annual Better Service Conference March 15 and 16 at the Hotel Roanoke, Roanoke, Va. More than 500 employees and guests attended the sessions, the employees being delegates representing better service clubs throughout the N&W system.

The 1957 expenditures will be "particularly for new freight cars," Mr. Smith said. He noted that in 1956, his road added more new freight cars (4,823) to its fleet than any other railroad in the country. "Even more" than that will be installed in 1957, he added.

The N&W would not be making such capital outlays unless it were confident the additional facilities would be needed to handle an increasing volume of business, Mr. Smith continued. "We don't want to get caught without the tools to do the

job when it is thrust upon us," he also said.

"Unusual things" the N&W did last year, as Mr. Smith put it, included its participation in the organization of American Coal Shipping, and its ordering of 148 diesel-electric locomotives.

American Coal Shipping is acquiring a fleet of vessels for handling export coal produced along lines of the Pocahontas roads.

As to the diesels, Mr. Smith had this to say: "Your railroad is planning to use these on its lighter traffic and variable traffic side lines. . . . and release the heavy steam power at present being used on those lines for handling its heavy and increasing main line freight traffic."

L.C. Yates, N&W general claim agent, was general chairman of the conference, and J.F. Jamison, assistant general claim agent, presided at the March 16 session. Speakers, in addition to President Smith, included Vice-Presidents Saunders, Baird and Wyatt, and W.T. Ross, general superintendent of transportation. In his role as mayor of Roanoke, Chief Engineer Young delivered an address of welcome.

## ICC Will Investigate Locomotive Inspection Rule

The Interstate Commerce Commission will investigate the reasonableness of the current interpretation of one of its locomotive inspection rules which applies to locomotives other than steam and requires that they be inspected "after each trip, or day's work."

The rule is No. 203, and the commission's investigation is docketed as Ex Parte 203. The inquiry was sought by the Association of American Railroads in a petition filed last May.

The interpretation in issue is that now followed by the commission's Bureau of Safety and Service. It calls for inspections at any point where engine crews are changed. Formerly the inspections were called for only at ends of runs.

## UP-Milwaukee 'Slumber' Service to Stop April 1

The Union Pacific and Milwaukee will stop competing with the Burlington's 40-roomette "Slumbercoaches." A temporary tariff, put into effect last October 8, will be allowed to expire April 1.

UP and the Milwaukee have been running "modified roomette" service on their "City of Denver." Fare has been coach-plus-\$7.50, which compares with that on Burlington "Slumbercoaches." On the Chicago-Denver runs, however, the two roads have employed conventional 21-roomette sleepers. A UP spokesman said the service "hasn't had the appeal we thought it would."

Burlington's "Zephyr Slumbercoach" service (Railway Age, Dec. 24/31, 1956, p. 30), continues to flourish. J. J. Alms, general passenger traffic manager, says it is carrying an average of 29 to 31 passengers, compared with a rated revenue capacity of 34.

The "Denver Zephyr" needs an extra Slumbercoach 25% of the time, Mr. Alms said. It will begin hauling two such cars regularly late this Spring.

## Katy Enjoined on Parsons Personnel Cuts

The State of Kansas has obtained a restraining order prohibiting the Missouri-Kansas-Texas from removing records from the state following action by the railroad to reduce its personnel force at Parsons.

Kansas Attorney General John Anderson, Jr., sought the temporary injunction, he said, after Katy repre-

sentatives removed some records from the road's accounting office at Parsons during the night of March 17.

Seeking a permanent injunction, Mr. Anderson charged that the railroad was violating a 1914 court order which set minimum limits for the number of employees the road would maintain at Parsons. April 30 was set for hearing on the permanent injunction.

Katy officers would not discuss the situation. Various economy measures have been introduced on the road since D.V. Fraser moved up from the road's presidency to board chairman and was replaced as chief executive by W. N. Deramus, III (Railway Age, Jan. 21, p. 15).

Kansas Governor George Docking requested a meeting with Mr. Deramus over the past weekend to discuss the situation.

### C&O Is First Railroad to Use Servo Hot-Box Detector

The Chesapeake & Ohio is the first railroad to put in use an electronic hot-box detector developed by the Servo Corporation of America. T. L. Carlson, C&O superintendent of signals, has worked with Servo engineers in installing and testing the device on the eastbound track at Norge, Va.

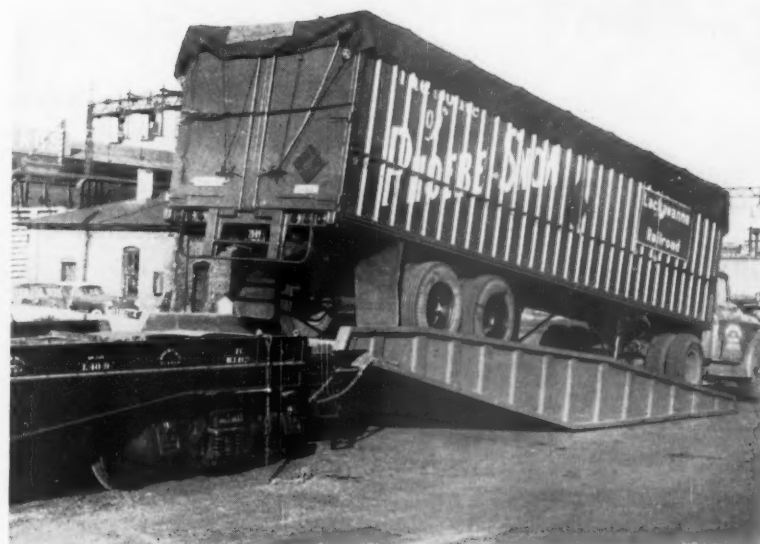
The detector units are located outside and parallel to the rails. The head of each detector contains an infrared pyrometer with a lens aimed up, at an angle of 45 deg, at the bottom and side of each passing journal box. A paper tape recorder makes a visual record of the relative heat of each journal box passing over the detector.

The detector is still in the testing stage on the C&O. The railroad intends to replace the graphic recorder with an alarm-operating mechanism and journal counters, also developed by Servo, that will instantly report the location of a hot box in a train.

### DL&W Presses For Better Tax Ruling

Attorneys for the Lackawanna asked the New Jersey Supreme Court last week for reargument on a tax case in which the court ruled that taxes levied on the railroad are discriminatory. The ruling had failed to specify the step that could mean actual cash savings.

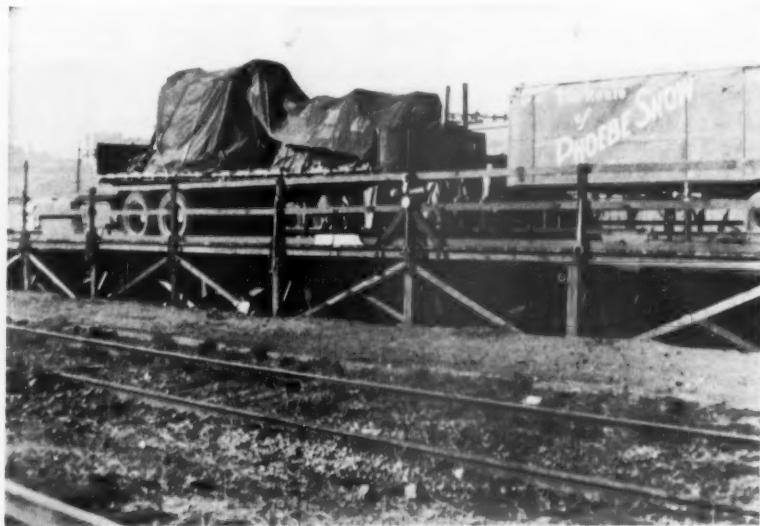
The railroad had brought suit against the state tax director complaining that its non-mainline property assessments were levied at their



### East Meets West—Via Transcontinental Piggyback

Up she goes! Truck trailer above moved in one of two recent cross-country trailer-on-flat-car operations. Its cargo was a Wall Street Journal printing press being shipped from Hoboken, N. J., to San Francisco via Lackawanna-Wabash-Santa Fe (Railway Age, Mar. 4, p. 7). The other piggyback shipment (below), also

consisted of printing presses—manufactured by Walter Scott Company of Plainfield, N. J., for a Santa Ana, Cal., newspaper. Routing, also beginning at Hoboken, was Lackawanna-Nickel Plate-St. Louis-Southwestern-Texas & New Orleans-Southern Pacific. The two simultaneous movements were the first of their kind.



"true" value while other real property in the state was assessed at varying fractions of full worth. The alleged overcharge is more than \$500,000 for this road.

In a separate case decided simultaneously with the DL&W's, the court ruled that all assessments in the state should be made at "full" value. The ruling would, however, allow un-

til 1959 for the adjustments to be made.

The decision in the Lackawanna case upheld that part of a lower court judgment which ordered the tax director to assess Lackawanna property at less than "full" value to bring the railroad levies in line with those on other property (Railway Age, Mar. 18, p. 7). But the Supreme Court



KANSAS CITY SOUTHERN

# Speeds repairs, cuts costs in this yard!



Trackmobile moving box car onto transfer table.

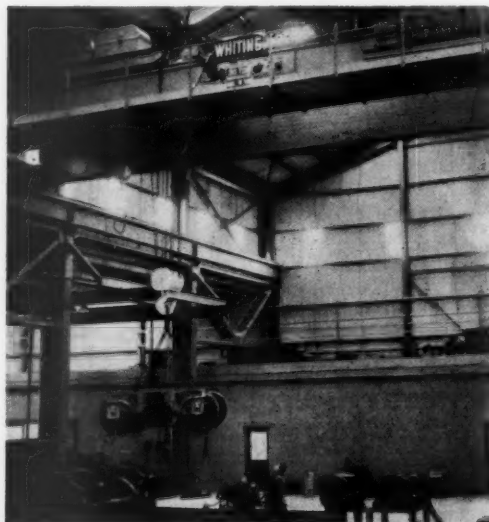
The new Deramus Yard of the Kansas City Southern Railway is as up-to-date as modern equipment can make it. Efficient shop layout speeds repairs of Diesels and cars . . . returns them to the road with a minimum of down-time. Many vital functions are performed by Whiting equipment such as . . .

**WHITING TRANSFER TABLE**—with 35-ton capacity and 60-foot span. It is located at one end of the car repair shop to move cars from the yard's five storage tracks to any desired shop track.

**WHITING 2TMA TRACKMOBILE**—moves bad order cars to transfer table and repaired cars out of the shop. Trackmobile gets around in the yard fast by changing from rubber-tired road wheels to steel rail wheels in less than a minute.

**WHITING 30-TON, 60-FOOT SPAN TRAVELING OVERHEAD ELECTRIC CRANE**—speeds handling of heavy parts in the Diesel repair shop. It has a 5-ton auxiliary hoist for lighter loads. (See Photo)

**WHITING 30-TON, 120-FOOT SPAN OVERHEAD TRAVELING ELECTRIC CRANE**—set-up to service all five tracks in the car repair shop. Has enough "muscle" to lift whole cars . . . and a 5-ton auxiliary hoist for faster handling of lighter loads.



**READ THE DETAILED STORY OF THE DERAMUS YARD**  
The "cover story" of the WHITING LIMITED'S spring issue tells all about this new \$8¼ million yard. Write for your copy.

**ALSO YOURS FOR THE ASKING!**

**TRACKMOBILE** Bulletin T-115—Features and advantages that cut car handling cost. Illustrated with many photos.  
**WHITING CRANE** Bulletin No. 80—complete information on the 14 outstanding Whiting Crane features.

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referred to the tax director the assignment of working out these adjustments.

The tax director, however, has asked for reconsideration of this assignment on the ground the issue of 1956 taxes is now out of his jurisdiction. The Lackawanna petition last week was for permission to argue on this issue.

Meanwhile, the 1957 assessments have been made on the same basis as those for 1956. This is despite futile joint action in a lower court by the Lackawanna, Pennsylvania, Erie, Lehigh Valley, Jersey Central and Reading to have the assessments delayed pending outcome of the Supreme Court case. The railroads are continuing associated action for tax relief. It has been estimated that some \$4 million annually is at stake.

## Organizations

### Equipment Utilization Keynotes RSPA Meeting

"Management Controls Over Equipment Utilization" is the theme of the 1957 spring meeting of the Railway Systems and Procedures Association. The group will meet in the Constitution Room of the Morrison Hotel, Chicago, April 2-4. The program follows:

#### TUESDAY, APRIL 2

The Challenge of Better Car Utilization to Railroad Management—D. E. Smucker, president, Detroit, Toledo & Ironton.

Southern Pacific's Expanded Box Car Distribution Program—George Feeney, manager, industrial operations research and electronic data processing research, Stanford Research Institute; Leo J. Lyons, superintendent, freight car service, Southern Pacific; L. E. Hoyt, assistant to general manager, SP; and P. M. Chaimov, manager, freight protection, merchandise and station service department, SP.

Report on the Workshop on Grading and Marking Cars—C. T. Knudsen, operating assistant, Chicago & North Western.

Industry's Approach to Improvement of Car Utilization—J. L. Kerins, general manager, transportation-central operations, U.S. Steel Corporation, and Stanley H. Tippet, traffic manager, Container Corporation.

Dollars and Cents Value of Improved Car Utilization—Arthur H. Gass, chairman, Car Service Division, AAR.

#### WEDNESDAY, APRIL 3

Motion picture on production control—Arthur Andersen & Co.

How Production Controls in Programmed Repairs Can Improve Car Utilization—John E. Martin, Arthur Andersen & Co.; W. B. Salter, manager of transportation, New York Central; William R. Ware, assistant superintendent, motive power & equipment, Elgin, Joliet & Eastern; E. D. Quan, assistant vice-president, manufacturing, Pullman-Standard Car Manufacturing Company; and C. E. Swanson, assistant general purchasing agent, Burlington.

Improved Car Utilization from Better Repair Track Procedures—W. H. Mims, superintendent motive power & equipment, Central of Georgia. An Operating Man Looks at Equipment Utilization—George M. Leilich, vice-president—operations, Western Maryland.

#### THURSDAY, APRIL 4

Field trip to Bensenville Yard of the Milwaukee.

**Mid-West Shippers Advisory Board.**—The 118th regular meeting will be held in the Congress Hotel, Chicago, April 10-11.

## People in the News

### California Attorney Is New AAR Vice-President

Walter J. Little, general counsel of the California Railroad Association, is the new vice-president of the Association of American Railroads. As reported in Railway Age of March 4, where the association's plan to create the new position was revealed, he will be in charge of legislative activities.

As AAR President William T. Farley's announcement put it, it is contemplated that Mr. Little's duties "will be primarily in the field of federal legislation." Legislative activities heretofore have been under the jurisdiction of the association's Law Department.

Mr. Little, who will assume his new duties April 1, has been in his present position with the California Association since January 1954. For the previous 20 years he represented the railroads of California as special attorney. This role followed a career of nine years in the California General Assembly, including service as its speaker in 1933.

Mr. Little was born in Indiana and educated in the public schools of Santa Monica, Calif., and at the University of Southern California and its Law School. His law studies were interrupted by his military service in World War I. After that service he returned to Los Angeles, where he practiced law from 1918 until 1934.

**ATLANTIC COAST LINE.**—P. J. Lee, assistant freight traffic manager, Tampa, Fla., appointed executive agent there.

David L. Smith, manager real estate department, Wilmington, N.C., appointed manager real estate and insurance department at that point.

E. B. Lawrence, Florida freight traffic manager, Jacksonville, appointed assistant vice-president, traffic, Wilmington, N.C.

F. Leon Joyner, editor, Atlantic Coast Line News, named also manager, public relations bureau, Wilmington.

J. H. Arnold, trainmaster, Florence, S.C., transferred to Jacksonville district, Sanford, Fla.

**NORFOLK & WESTERN.**—John A. Beaddy, superintendent telegraph and signals, Roanoke, Va., retired February 28. New head of the department is Joseph G. Karlet, with the title of superintendent signals and communications. William B. Van Lear, assistant to superintendent of signals, succeeds Mr. Karlet as assistant superintendent signals. James M. Hesser, assistant superintendent telegraph, named assistant superintendent signals and communications, a new position. Joe M. Francis, supervisor



E. B. Lawrence  
ACL



Joseph G. Karlet  
N&W

telephones and telegraph, promoted to general supervisor communications, a new position.

**NORTHERN PACIFIC.**—J. J. Castagne appointed to the newly created position of auditor of miscellaneous accounts, St. Paul. Mr. Castagne was formerly auditor for the Northwestern Improvement Company, a wholly owned subsidiary being liquidated by the NP.

**RAILROAD RETIREMENT BOARD.**—James B. Manning, assistant director, Bureau of Wage and Service Records, appointed director of the bureau, succeeding Howard W. Habermeyer, promoted (Railway Age, Feb. 25, p. 55). Mr. Manning's successor is I. Blume, chief of operating services in that bureau.

**RAILWAY EXPRESS AGENCY.**—R. L. McCune, supervisor terminal and vehicle service, Fort Worth, Tex., appointed general agent, St. Joseph, Mo.

**ROSCOE, SNYDER & PACIFIC.**—E. J. Worthy, vice-president of traffic, Roscoe, Tex., retired March 2. W. E. Crow, general agent, Dallas, has moved his office to 807 Cotton Exchange building, his territory including Dallas east to New Orleans, La. B. L. Dieterman, general agent, Fort Worth, transferred to Dallas, at above address, his territory including Dallas west to El Paso and Oklahoma.

## Supply Trade

John E. Angst, vice-president of western region sales for American Car & Foundry Division of ACF Industries, Inc., has been appointed vice-president in charge of marketing for the entire division, at New York.

J. Frederic Byers, Jr., former president of A. M. Byers Company, has been elected chairman of the board, and B. M. Byers, vice-president, sales, has been elected president. Ramon I. Lindberg, formerly with Sinclair Research Laboratories, Inc., has been appointed director of corrosion research.

James Whalen and Kenneth Shannon have been appointed manager and assistant manager, respectively, of the transportation sales department of Trane Company.

Edgewater Steel Company has opened a new office in the Eig Building, Silver Spring, Md., with R. C. Carrick, formerly service engineer in Pittsburgh, as district manager.

Raymond W. Ayers has been named sales manager and Peter R. de Bruyn application engineering manager of Revere Corporation of America, manufacturer of Cox & Stevens electronic railroad scales.

George H. Redding, Jr., has been elected president of Massey Concrete Products Company to succeed his father, George H. Redding, who died November 23, 1956. W. Lyle McDaniel has been appointed executive vice-president.



## Bearing Tester

*... has electronic amplifier*

The screwdriver used for listening to bearing noises has been electrified by connecting it with a compact electronic amplifier and producing a bearing tester. Resembling a portable radio in size and appearance, the instrument can be used in any shop for preventive and plant maintenance or quality control. The tester detects and measures wear in bearings, gears, spindles or slides without disassembly of machinery.

The instrument consists of a metal probe or pick-up, connected by an electric cord to a compact electronic amplifier equipped with calibrated meter, loudspeaker, controls and, if desired, with devices for making permanent records. Its power supply is any convenient electric outlet. *Sperry Products, Inc., Dept RLC, Danbury, Conn. •*



## House Trailer

*... for camp car use*

The "Economy 21" camp car is a complete two-man living unit which can be hauled by ordinary vehicles over roads and highways to the work site. The new trailer has an exterior

length of 21 ft, 4 in. and an approximate gross weight of 4,340 lb. The car is blanket insulated with metal-foil-covered Fiberglas. The car contains two bunks with innerspring mattresses, a combination electric or ice refrigerator, a cook stove with oven and ventilator hood, an enclosed odor-free dry chemical lavatory, a stall shower, wash basin, double full size hanging wardrobe, storage cabinets, space heater with electric blower, screened windows and doors, screened, crank-type roof ventilator, and a living-dining area. The car can operate at or away from city utilities. *Morrison Railway Supply Company, Dept. RA, Buffalo 12, N. Y. •*



## Electric-Drive Truck

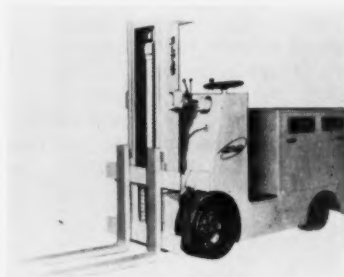
*... has gasoline engine*

Electric drive complete with dynamic braking has been applied to a four-wheel industrial truck, the Model GLT Dynamotive. The power plant is a Continental gasoline engine, directly coupled to an electric generator. The generator powers a high-torque electric motor which drives the wheels through a differential. The manufacturer states that the drive has a high efficiency resulting in a fuel saving of over 25 per cent. Maintenance costs are said to be reduced by the elimination of clutches, torque converters and mechanical or fluid transmission.

Engine life is prolonged by the elimination of road shock through the transmission. Power is smoothly applied by increasing engine speed with the foot accelerator. Dynamic braking provides longer brake life,

surer control on grades and ramps.

The tractor has a drawbar pull of 600 lb normal and 2,000 lb ultimate. Its overall length is 79½ in. *Automatic Transportation Company, Dept. RA, Chicago 20 •*



## Heavy-Duty Fork Truck

*... has large capacity*

A new 6,000-lb capacity heavy-duty fork truck provides for ease of mounting and demounting, from either side, where operators must leave the truck frequently. The operator has the advantage of good visibility with large loads.

Hydraulic lift and tilt provide fast operation. Brakes are hydraulic. The truck frame is of heavy gage reinforced formed steel plates electrically welded into a rigid box structure. Uprights are of alloy steel, hot pressed channels, with the inner uprights and elevator on widely spaced rollers.

Travel speed is 5.5 mph without load and 5 mph will full load. Hoist speed, with full load, is 20 fpm up, 40 fpm down; without load, 40 fpm up, 36 fpm down. The four-speed control is magnetic with time delay between speeds.

The drive unit consists of a motor vertically mounted and directly connected through a free coasting worm gear in first reduction and spur gear in second reduction. Drive shafts are mounted on taper roller bearings and are splined to a four-pinion differential. Wheels are connected to drive shafts through forged clutch plates which are doweled and bolted to the cast steel wheels and splined to the drive shaft. *Elwell-Parker Electric Company, Dept. RA, 4205 St. Clair ave., Cleveland 3 •*

DEDICATED TO BETTER RAILROADING

*The*  
AMERICAN  
**Brake Shoe**  
COMPANY

# Ton-Mile

MARCH 1957

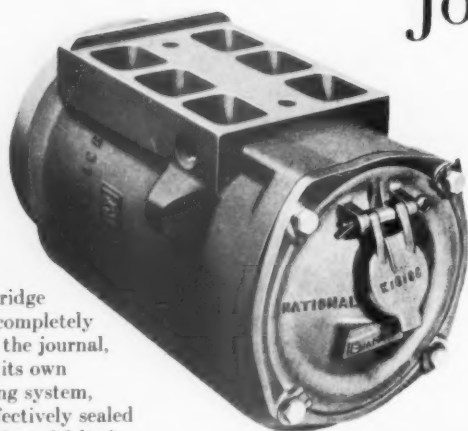


**THE TONNAGE TRAVELS BY RAIL:** From all corners of the country a steady supply of vital scrap rolls in to sustain steel mill operations at high levels.



*The Never Ending Search* for new and improved products goes on round-the-clock at Brake Shoe's research center near New York City. Illustrated is the versatile bearing test "train" where full-load, high-speed tests are conducted at air temperatures as high as 125° F. or as low as 40° below zero.

## Road Testing Tomorrow's Journal Bearing... *TODAY*



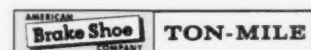
The cartridge bearing completely encircles the journal, contains its own lubricating system, and is effectively sealed by a lubricated felt ring riding on the conventional dust guard diameter.

The National Cartridge Bearing—a revolutionary concept in journal bearing design—recently produced excellent results in service tests on leading railroads. For instance, a freight car equipped with these units traveled 36,460 car miles consuming only 99 ozs. of oil. This is an indicated oil consumption of 0.33 oz. per 1000 journal miles. In addition there was no oil leakage, no distortion or appreciable wear between the unit and related parts, and an excellent contact pattern on the surfaces of journals and bearing bores.

Abrasive grit was successfully excluded too!

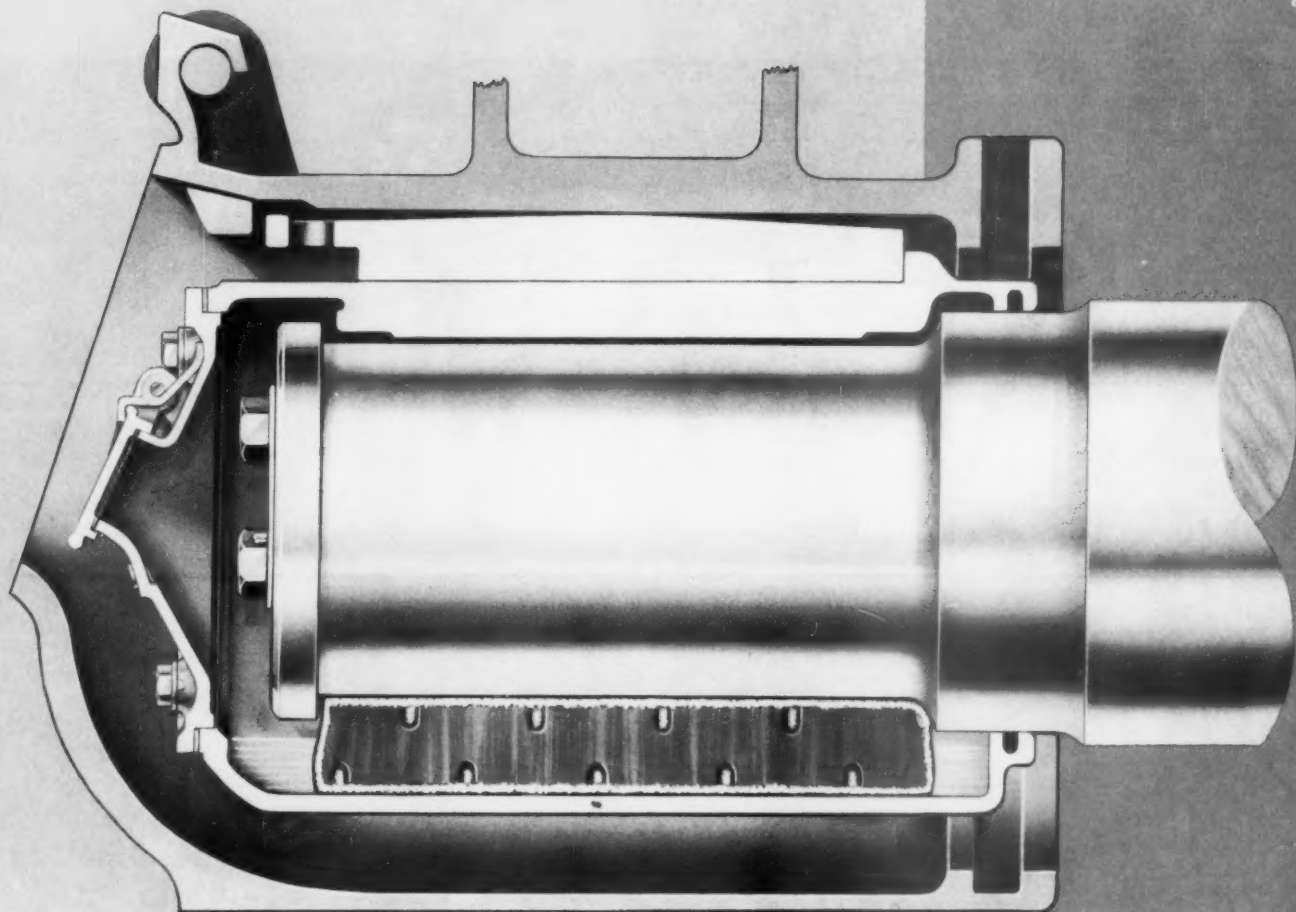
These results—validating our laboratory findings—add proof that tomorrow's economical freight car journal bearing is here today!

Approved by AAR for test in interchange service.



The **Ton-Mile**

*dedicated to  
Better Railroading*

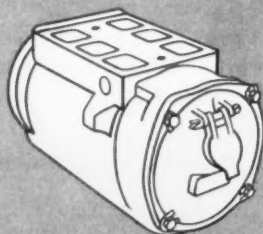


American Brake Shoe has developed an entirely new freight car bearing known as the National Cartridge Bearing. The unit is a complete bearing and lubrication system which fits into the standard freight car journal box. With a simple adapter it can also be used in pedestal type side frames. Basically, it is a sleeve bearing fitted into its own housing, which contains an oil reservoir and a lubricating pad.

The concept of a sleeve has been adopted to perfect a bearing that will shift laterally as required but will lubricate the journal under all conditions. In its ability to withstand impacts and braking forces, the cartridge unit is superior to any roller bearing assembly now available for freight service.

This unit is built specifically for freight service and is not a cut-down version of a passenger car component. It can also be used, however, on head end or other passenger equipment.

The proven principles of positive pad lubrication, effective sealing, and controlled clearance are all incorporated in the cartridge unit. No elaborate shop facilities or highly skilled personnel are required for installation, inspection, maintenance or repair. It is simple, sturdy, foolproof—and consumes very little oil. The National Cartridge Bearing has shown such promise in laboratory and road test that it is ready for accelerated service testing by America's major railroads—now.



SURER, SAFER, SIMPLER CONTROL



WITH BUILT-IN UNIVERSAL RETAINERS

give

**Positive Shift Prevention!** Built-in fiber retainers prevent both endwise shift and shift from journal rotation. Pad resilience holds retainers against side of box, away from journal. One universal style for use in boxes with or without retaining ribs.

**Far Better Wicking Action!** New heavier cotton weave provides superior wicking action. Cover is woven as a single tube, eliminating all possible seams from the wicking path. The twin design also provides for equalization of the oil level in the journal box through a channel at the center.

**Improved Resilience!** Twin inserts are made of specially molded foam neoprene, compounded to our specifications. This provides excellent set resistance and oil absorption properties, and is designed for improved resilience.

**Superior Oil Distribution!** New twin design assures improved oil distribution along the entire length of the journal.

# OF THE HOT BOX PROBLEM!



For boxes with or without retaining ribs, fiber plates integral with the new Redipak twin pads engage the stop columns, preventing both endwise and rotational shifting.

## COMPARE THESE FEATURES OF REDIPAK TWIN PADS




Here it is . . . the new, improved Redipak twin lubricating pad! This latest triumph of American Brake Shoe's bearing research retains the simplicity, economy, and durability of the original model—yet achieves new standards of dependable, all-year-round lubrication!

This new Redipak twin lubricating pad is even easier to install, too. Sturdy fiber retainers keep it securely in position . . . whether or not the box is equipped with retaining ribs.

Try out this new Redipak twin lubricating pad and see for yourself how it improves lubrication!



RAILROAD PRODUCTS DIVISION  
230 Park Avenue • New York 17, N. Y.



**FAST**

**ECONOMICAL**

**SAFE WAY**

*to keep  
switches  
snow free...*

*the* **RACOR<sup>®</sup>**

**IT'S FAST**—Snow does not get an opportunity to pile-up between switch points and stock rails with the Racor Snow-Blower on the job. It protects against sleet too! Strong, intermittent blasts of air—every few seconds—keep these sections as clean-as-a-whistle. This mechanical device is simple in construction. It consists of a source of compressed air, an anti-freeze injector, a cycling device and two manifolds equipped with adjustable nozzles. Existing air supply and air lines can be utilized.

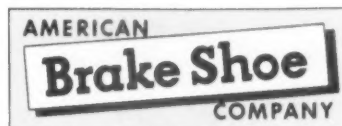
**IT'S ECONOMICAL**—The Racor Snow-Blower is simple to install, easy to maintain, and economical to operate. This dependable device relieves the need for manual attention in bad weather, saving hours of time, labor and expense. It can be adapted to remote control operation if desired. The Racor Snow-Blower offers big savings in operating costs . . . far more than other snow removal methods.



# SNOW-BLOWER

***IT'S SAFE***—This advantage is the most important of all. Employees are not required to manually clear switches when conditions and visibility are bad. Also—with heat source eliminated—there's no problem of water from melted snow or ice, and no hazard of fire to track and operating equipment.

The Racor Snow-Blower has been field-tested and proven during many winters under extreme snow conditions. Take advantage of the fast, economical and safe Racor Snow-Blower next winter—you'll be thankful you did.



RAILROAD PRODUCTS DIVISION

230 Park Avenue, New York 17, N. Y.

Line Spiking Gets an  
Economical Assist  
with the

# RACOR® DUAL DRIVER

*This revolutionary machine introduces new ease, new speed and new labor savings to out-of-face line spiking.*

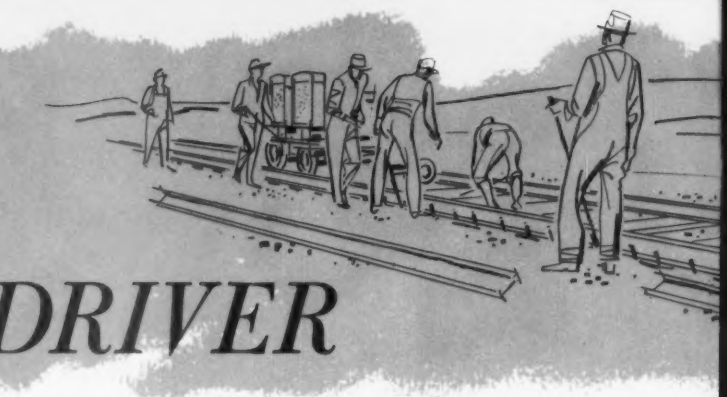
Line spiking has always been an important and relatively expensive part of the rail laying program. Initially the task was performed by large gangs of hand spikers. These spikers, swinging mauls day in and day out, developed a skill which assured fairly smooth rail laying operations. When power equipment for adzing ties and pulling spikes was introduced, manual labor was no longer able to keep up with the rest of the gang. Power spiking equipment became a must.

The first tool to gain wide acceptance by the railroads was the air hammer, followed later by mechanical hammers. These tools made faster rail laying programs possible. Smaller spiking crews, equipped with air or mechanical hammers, kept pace with the mechanized sections of the rail laying gang.

Until recently these tools were the most efficient known to railroads for spiking. The development of the Racor DD-4 Dual Driver opened the door to vastly improved line spiking applications.

## *A New Power Spiking Concept*

What is the DD-4? The Racor Dual Driver is a compact, easy-to-use machine which permits one man to drive at least twice as many spikes as with other spike drivers. Its many engineering refinements eliminate in many instances the costly operation of hand setting spikes prior to driving. The machine is sturdily constructed to withstand rugged service over long periods, yet is light enough to be moved along and taken off the track by one man. Adjustable track wheels assure proper alignment while on the track. Large rubber tired wheels allow simple removal from track. Dual hammers, actuated by air cylinders in the guide housing, can be readily positioned to drive two spikes simultaneously. A set of spike positioners—functioning both mechanically and magnetically—automatically position and hold spikes for driving. An efficient pneumatic system is actuated by a lever readily accessible to the operator.



What are the major advantages of the Racor Dual Driver over individually operated air and mechanical hammers?

**Easier operation:** The DD-4 operator stays on the job day in and day out without relief or unnecessary fatigue. This is possible because the Racor Dual Driver absorbs most of the vibration and shock. Previous drivers imposed excessive fatigue on operators and required extra relief men for each individually operated driver.

**Faster spiking:** One operator can move smoothly along the track with the DD-4 driving two spikes simultaneously. The Racor Dual Driver has twice the output of an individually operated air or mechanical spike driver. Capable operators have been known to drive fourteen ties a minute on the first day of DD-4 operation.

**Smaller spiking crews:** The Racor Dual Driver effects substantial manpower savings. One man operating the DD-4 can perform the spiking operation formerly entrusted to two air or mechanical hammer operators and their two relief men. This is a saving of three men. In addition, in many gangs the unique automatic spike positioning feature of the DD-4 eliminates the need for a sizable crew of hand setters required with previous spiking methods.

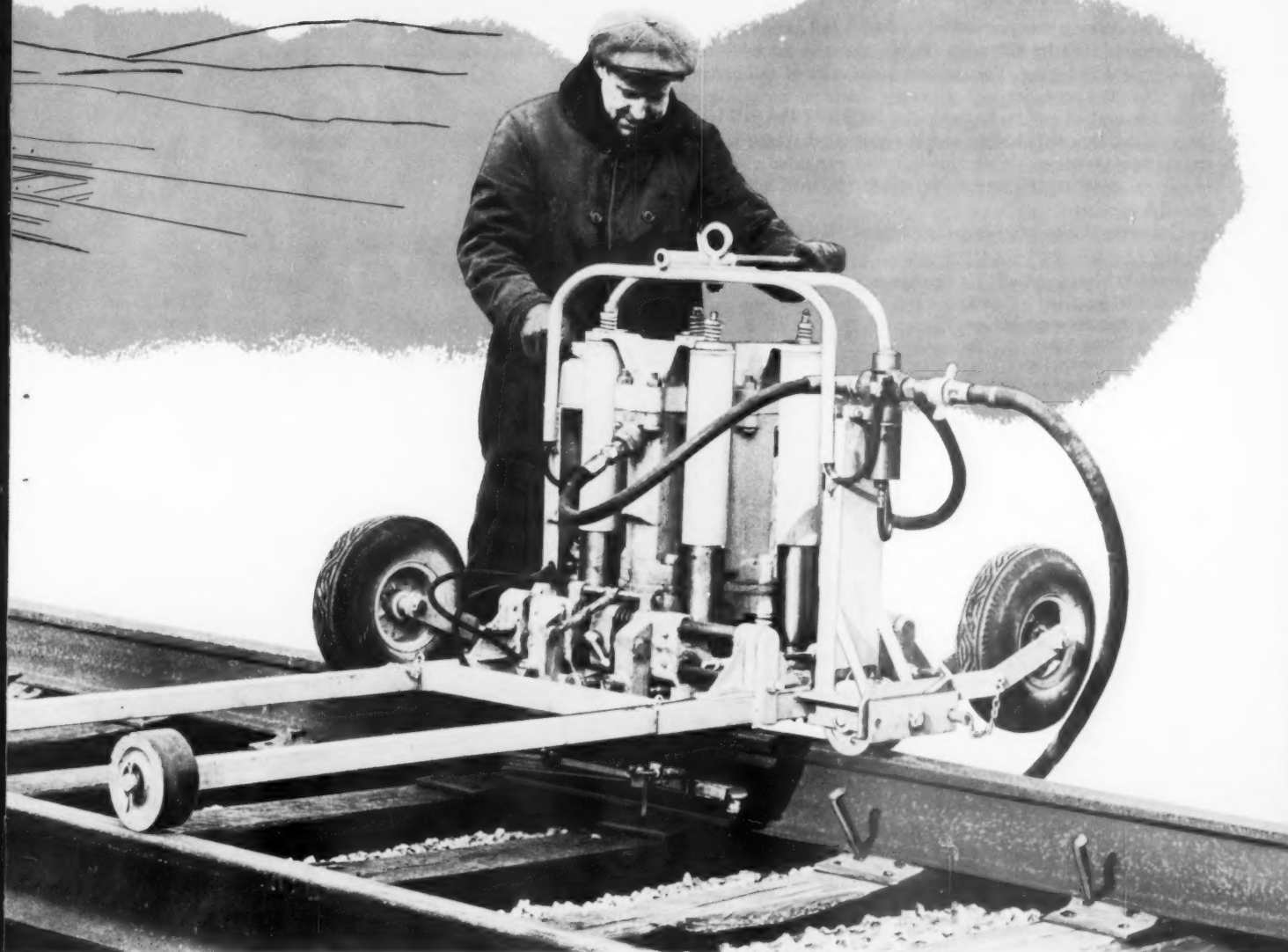
**Uniform spiking:** Each hammer in the machine being positioned over predetermined spike holes in the tie plate assures uniform location of spikes, while balanced driving power on both sides of rail, directed vertically, will insure straight well-driven spikes.

This dual driving arrangement avoids the possibility of disturbing the position of the gaged rail.

**Reduced maintenance and downtime:** Being of simple design and rugged construction, the DD-4 assures years of trouble-free performance . . . under the toughest operating conditions . . . in the hottest or coldest weather. The DD-4 with over 2 years service has a record of extremely low maintenance expense.

A spiking team—one man on a Racor distributing cart places the spikes loosely in the line spike holes. Another man drives two spikes simultaneously by operating the control handle of DD-4. Release of the control handle readies the Dual Driver for the next pair of spikes.



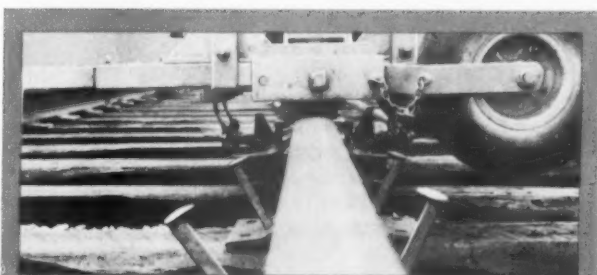


### *The DD-4 at Work*

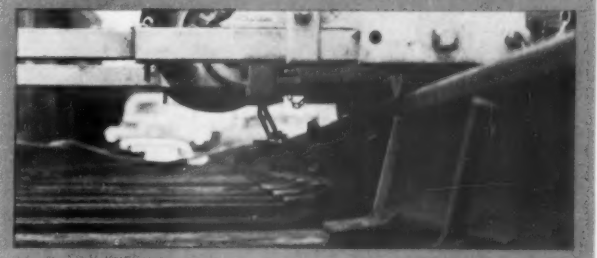
How is the Racor Dual Driver utilized in spiking organizations today?

Actually, this versatile machine is used in a number of ways. Greatest economy and speed are assured when the Racor DD-4 is teamed with the Racor distribution cart. This cart permits easier, faster spike distributing. One man precedes the DD-4 along the track, placing spikes in the tie plate spike holes. If the cart is not used, two men can position spikes efficiently. There are basically two ways spikes can be positioned in tie plate spike holes—leaning either away from the rail or toward it. As the DD-4 is moved over the spikes, the positioners pick up the spikes and hold them vertical for driving. With spikes leaning away from the rail, the pickup action is mechanical and the holding action is magnetic. With spikes leaning into the rail, both the pickup and holding actions are magnetic. After spikes are accurately aligned by the positioners, it is relatively simple for the operator to line up on either spike, press the air release lever and quickly drive two spikes simultaneously into each tie.

In some cases track conditions have prevented use of the DD-4 positioners. Even without the automatic positioners the DD-4 still provides greater line spiking economy than is possible with any other spike driver. This certainly points up the extreme versatility of the Racor Dual Driver. Also, with minor on-the-job alterations the DD-4 efficiently drives anchor spikes or Racor Studs in the anchor position.



The DD-4 (above) with positioners mechanically picking up line spikes leaning away from the rail. Spikes are held magnetically until partially driven. The DD-4 (below) with positioners magnetically picking up spikes leaning into the rail. Spikes are also held magnetically in this operation. Positioners are not used for driving anchor spikes or Racor Studs.



Brake Shoe

TON-MILE

## How The DD-4 Pays Off

When all spiking was performed by hand, rail gangs generally consisted of 150 to 200 men. Today there is no such thing as a typical rail gang. The general economics of rail gangs in this day and age depend on many factors, including the total amount of rail to be laid, the length of the rail laying season, deliveries of new rail and the over-all distance between rail laying programs. With this in mind, consider a rail gang made up of 90 to 100 men to lay from 1½ to 3 miles of rail per 8-hour day.

Compare the spiking organizations of this large rail gang.

A spiking organization using individual air hammers	
Operation	Men
Distributing Spikes	2
Setting Spikes	8
Air Hammer Spikes	8
(4 Driving, 4 Relieving)	
Compressor Operator	1
Driving Joint Spikes	2
Driving Bent and Missed Spikes	
<b>TOTAL</b>	<b>21</b>

A spiking organization using DD-4 Drivers with positioners	
Operation	Men
Distributing Spikes with Carts	3
Straightening Spikes for Positioners	1
Line Spiking (2 Machines)	2
Compressor Operator	1
Driving Joint Spikes	2
Driving Bent and Missed Spikes	
<b>TOTAL</b>	<b>9</b>

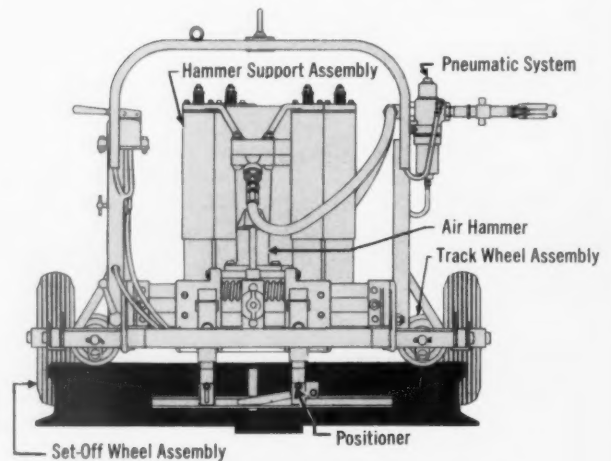
As you can see by the breakdown of these two spiking organizations, there is an indicated savings of 6 men per DD-4 machine. These savings, viewed in terms of today's high labor costs, enable the Racor Dual Driver to pay for itself in a relatively short period of time. This period is generally estimated to be approximately two months or less.

Tests and actual experience on more than 30 railroads prove that the Racor Dual Driver makes sound economic sense for out-of-face line spiking operations. In fact, this rugged machine is fast becoming a favorite in both large and small rail gangs.

The experience of one of America's leading railroads is a case in point. Two Racor Dual Drivers were employed for all line spiking in a large 100-man rail gang which had previously used four individual air hammers. After seven days of operation the railroad estimated a savings of \$125 a day. Hence, there was a total savings over the seven day period of \$875.

Here is another example of a railroad reaping big dividends with one Racor Dual Driver on the job. On this operation 18 men were required to gage track and drive line spikes. The efficient operation of the Racor Dual Driver permitted reductions in gang size from 18 to 10 men. This, the railroad estimated, provided savings of approximately \$120 a day.

The Racor Dual Driver is an air-operated machine. A compressor of 125 c.f.m. is generally required for each DD-4. Simple on-the-job adjustments enable the DD-4 to drive anchor spikes or Racor Studs in the anchor position.

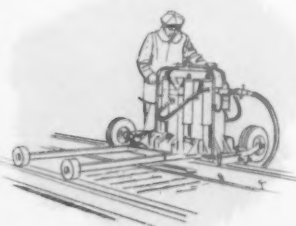


Another leading railroad attests to the economies available with the Racor Dual Driver on the job. The DD-4, in this instance, was not equipped with positioners, so hand set spikers were required. In this organization four men were needed to hand set the spikes, one man to operate the DD-4, one man to operate the compressor and one man to clean up behind the spike driver. As a result the DD-4 operator was driving 14 ties a minute the first day of operation.

The railroad was pleased with the results and decided to experiment further with the DD-4. At the time a small gang was employed in gaging and hand spiking. The railroad estimated they used approximately 22 hand spikers and 3 gagers for a total of 25 men. The DD-4 was utilized for gaging as well as driving intermediate spikes. Here is a breakdown of the crew: 1 man distributing spikes to the plates, 2 men with hand gages, 2 men barring rail into gages, 1 DD-4 operator, 1 compressor operator and 1 man for clean up. With this organization the DD-4 was driving 15 ties per minute. The test was so successful the railroad reduced the gang from 25 to 15 men. This is another example of the exceptional savings possible with one Racor Dual Driver in a small gang.

Today, the Racor Dual Driver answers the demands of modern railroads for increased output and reduced rail laying costs. Though spiking organizations and rail laying conditions vary greatly with each individual railroad, chances are the DD-4 will prove the economical answer to your specific line spiking problems. Why not call your Racor representative today—he will gladly survey your spiking operations and arrange for a DD-4 demonstration at your convenience.

## Development of the DD-4



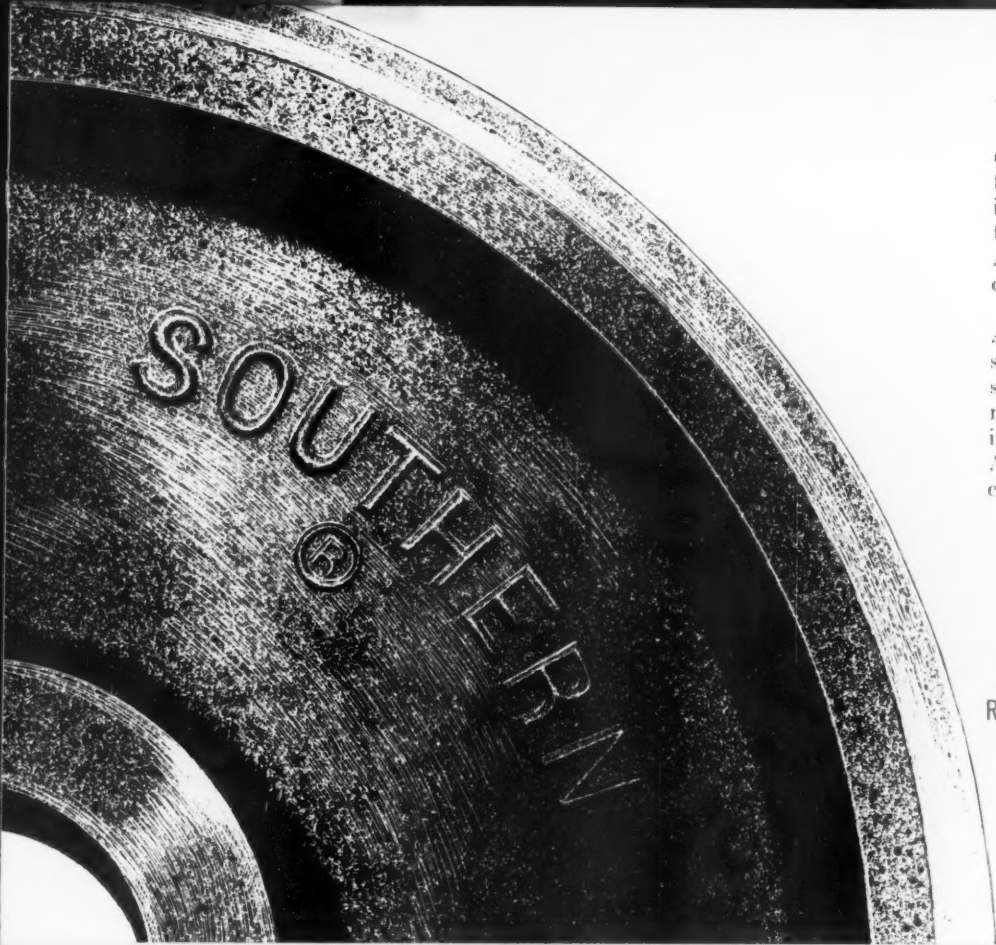
When the Racor Stud was developed (see the June 1956 issue of *The Ton-Mile*) it was evident that there was a need for an efficient means of driving it. Power spiking tools accessible to rail laying gangs were not suitable for the job. Racor engineers set out to design a machine that would efficiently and economically drive Racor Studs. The result of this endeavor was the predecessor to our present Dual Driver and was known as the Racor Dual Driver DD-3.

Initial tests proved the DD-3 an exceptionally fine tool for driving Racor Studs. Though the basic design of the DD-3 did not lend itself to economical line spiking,

our engineers believed the inherent advantages of this machine could be modified for the operation.

After much laboratory and field testing, the using and discarding of many ideas, many hours of painstaking research and design, Racor engineers arrived at the present day Dual Driver DD-4.

Tests and actual service on progressive railroads are proving this effort was worthwhile. The efficient Racor Dual Driver is providing new ease, new speed and new line spiking economy to rail laying gangs everywhere.



**YES!** Effective March 1, 1957, the Southern® cast steel wheel is A.A.R. approved for full interchange service! The 1957 rules of interchange, issued January 1, are modified to cover this A.A.R. acceptance. A new A.A.R. specification, M-208-56, covers purchasing and inspection procedures.

In granting this formal approval, the A.A.R. recognizes the many years of research, the long experience in actual road service, and the hundreds of thousands of miles rolled up by these wheels as produced in our modern, new foundry at Calera, Alabama. Here, today, is truly, *the* freight car wheel of tomorrow!

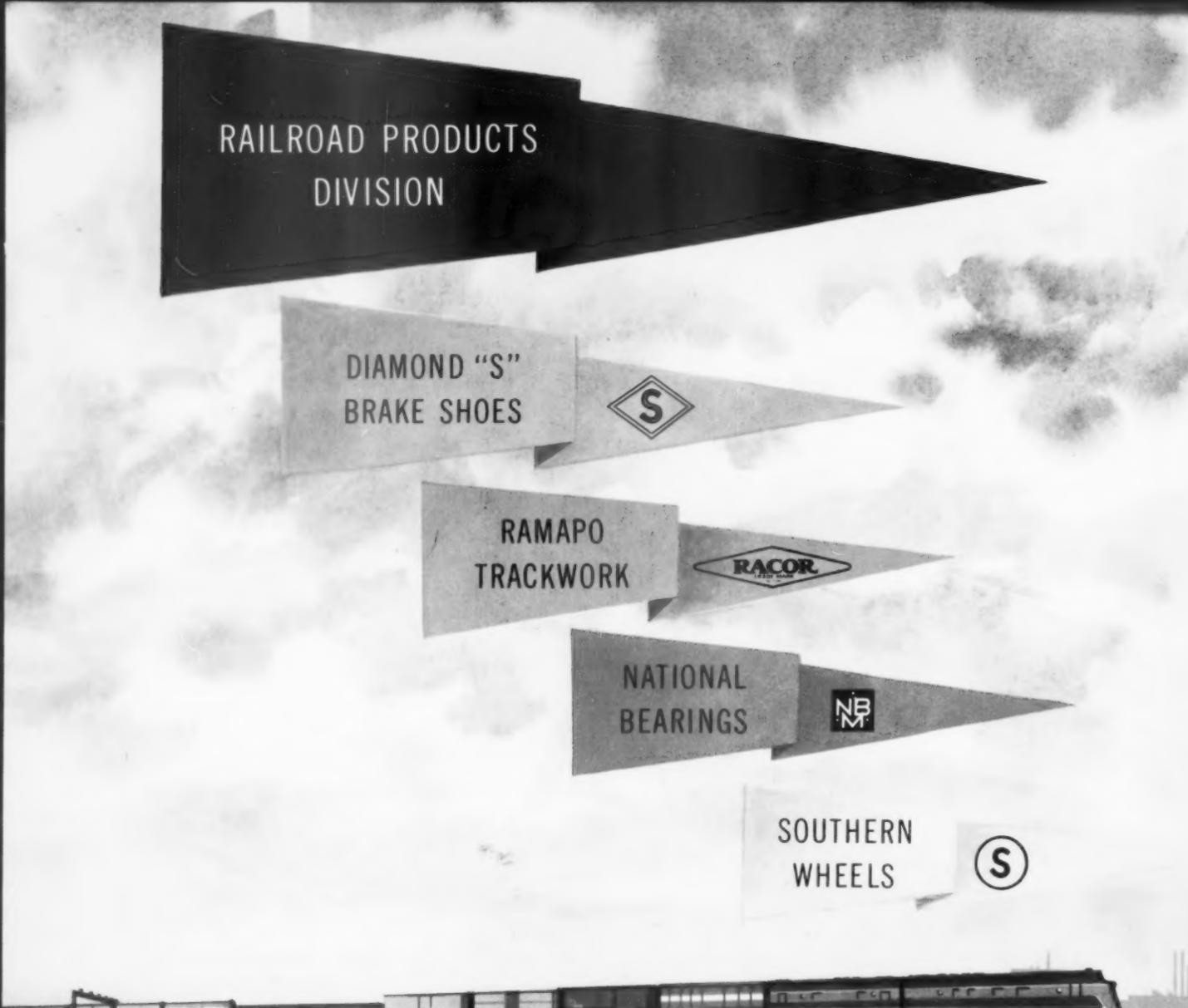


RAILROAD PRODUCTS DIVISION

230 PARK AVENUE, NEW YORK 17, NEW YORK

**NOW AAR APPROVED FOR FULL INTERCHANGE SERVICE !**





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DIVISION

DIAMOND "S"  
BRAKE SHOES



RAMAPO  
TRACKWORK



NATIONAL  
BEARINGS



SOUTHERN  
WHEELS

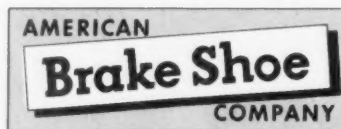


## *FOUR FAMOUS NAMES*

### Surge Ahead Under A New Brake Shoe Banner

Brake Shoe's recently organized Railroad Products Division combines the personnel, experience and manufacturing facilities of the four famous product lines shown above.

In the quest for greater railroading achievements, the Railroad Products Division is dedicated to contribute workable solutions for your present and future operating problems. We stand ready across the nation to answer your call with improved engineering, manufacturing and service.



RAILROAD PRODUCTS DIVISION

230 Park Avenue, New York 17, N. Y.

# LADING DAMAGED?

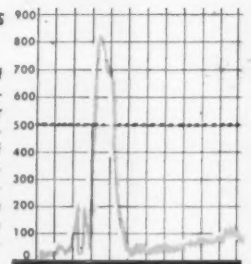
Charge it to **SHOCK!**

Yesterday's freight cars were never built for today's train operation, nor were friction gears designed to protect cars and lading at today's high speed classification yard impacts.

High speed coupling of heavily loaded cars generates forces that can only be cushioned by modern high capacity cushioning equipment, equipment designed to lessen not only these forces, but also the shock of impact.

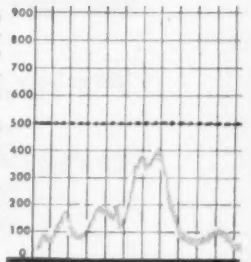
*These two oscillograms show the difference.*

Here is an oscillograph record of violent shock... the shock of impact of two loaded friction gear cars coupling at 7.53 mph. Observe that almost vertical line of force rise. It shows forces transferred to car structure almost instantaneously. That high rate causes shock. Note also that these forces are way up in the damage zone.



In contrast, this oscillogram of a Waugh Cushion Underframe Car coupling with a friction gear car at 7.57 mph shows how shock-proofing protects car and lading. Note:

- (1) That forces transferred to car structure have not invaded the danger zone.
- (2) Most important, the energy transfer from moving car to standing car is spread so that there is practically no shock.



Reduction and delay of impact-force transference to car structure... these are the reasons for specifying

**WAUGH** Cushion Underframe  
FOR SHOCK-PROOF PROTECTION

## HOW BELL SYSTEM COMMUNICATIONS SERVE THE RAILROADS



**A Maine Central diesel** at Lewiston, Maine. Almost 40% of the railroad's freight traffic is provided by the pulp and paper industry.

**The Portland dispatcher** controls train traffic by Bell System private line telephone. His daily round-up calls inform all way points of train movement scheduled for the next 24 hours.

### Private line telephone service makes one-track dispatching a one-man job

All operations on the Maine Central Railroad's two routes between Portland and Bangor are governed by a dispatcher in Portland. His equipment: a telephone headset and dial, and Bell System private line telephone service.

Speaking to any one or any combination of the 22 line stations, he issues all proceed, meet and running orders. He also authorizes delays and speed-ups,

and directs road work. Line stations, in turn, relay all movement and passing reports, tonnage totals and motive power availability to the Portland dispatcher. Fast communications make tight control possible.

*Bell System service can simplify your own communications. A representative will gladly discuss your operation. Just call your Bell Telephone Company business office.*

BELL TELEPHONE SYSTEM

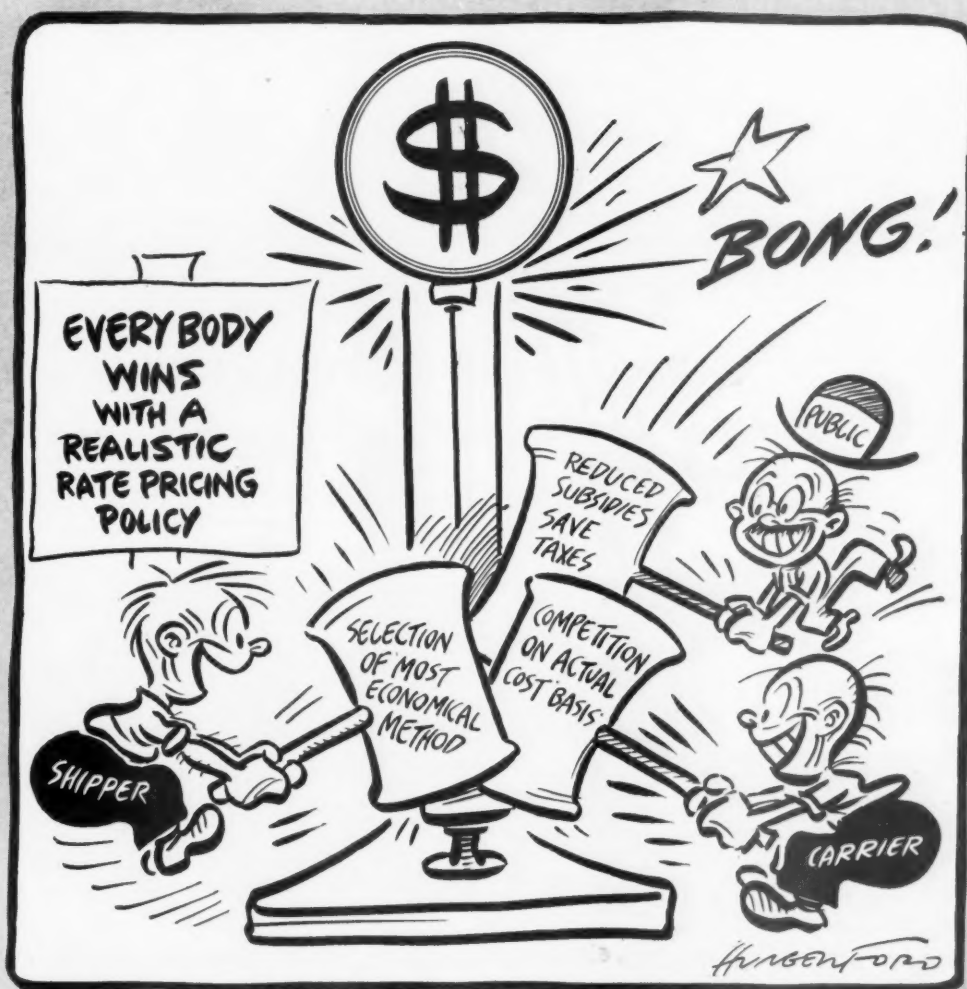


PRIVATE LINE TELEPHONE • PRIVATE LINE TELETYPEWRITER

CHANNELS FOR: DATA TRANSMISSION • REMOTE METERING AND CONTROL • TELEPHOTOGRAPH • CLOSED CIRCUIT TV

let competition decide

by Hungerford



We will be glad to send you enlarged copies of this Hungerford cartoon (without advertising copy) for posting on your office and shop bulletin boards, or a cut for your company magazine, at cost.

# Edgewater

## Rolled Steel Wheels



for Freight Cars



Passenger Cars



Diesel Locomotives



### Edgewater Steel Company

PITTSBURGH 30, PA.



## PILE DRIVERS GO DIESEL ON THE NP

American DiesElectric meets demand for power and speed

Northern Pacific Railroad's dieselization program now includes completely diesel powered pile drivers! An American 40-ton DiesElectric\* Locomotive Crane, equipped with a diesel pile hammer gives the NP a compact, self-propelled rig. It's a fast moving unit that pulls its own work cars. While its primary duty will be pile driving, the big machine can be converted for hook or bucket work in a matter of hours.

Smooth power and the ability to set up and move fast were NP requirements for this machine because it must serve an entire district. On the job the American hauls a 220-ton trailing load at speeds up to 14 mph—top speed is 28 mph! A big time saving feature is the American designed pile lead that automatically folds as the boom is lowered—unfolds as it's raised. For side batter, an air powered motor swings the leads to either side.

Demands for smooth, efficient power, speed and precise control in locomotive cranes are met by American DiesElectrics. Progressive railroads capitalize on the outstanding production ability, overall economy and lower maintenance costs of American DiesElectric Locomotive Cranes.

Actual cost and operating records of roads using DiesElectrics prove that they can "work off" their cost completely in five years or less! Write direct for detailed information about American's complete line of locomotive cranes available in capacities to 80-tons.

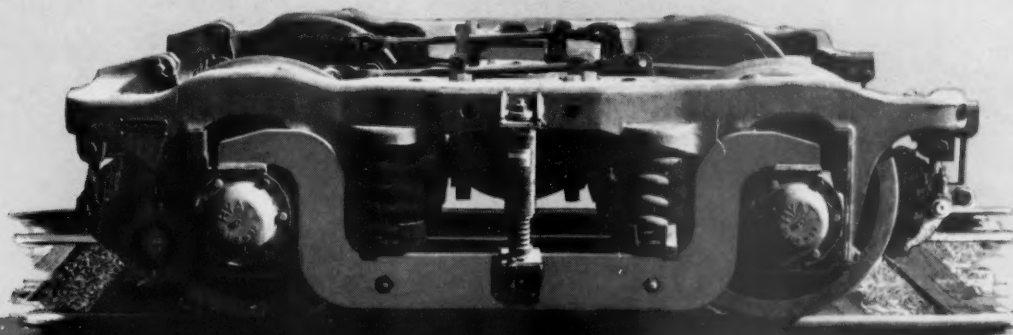
\*Registered Trademark

### AMERICAN HOIST

and Derrick Company

St. Paul 1, Minnesota

# Repeat Orders Prove Their Value!



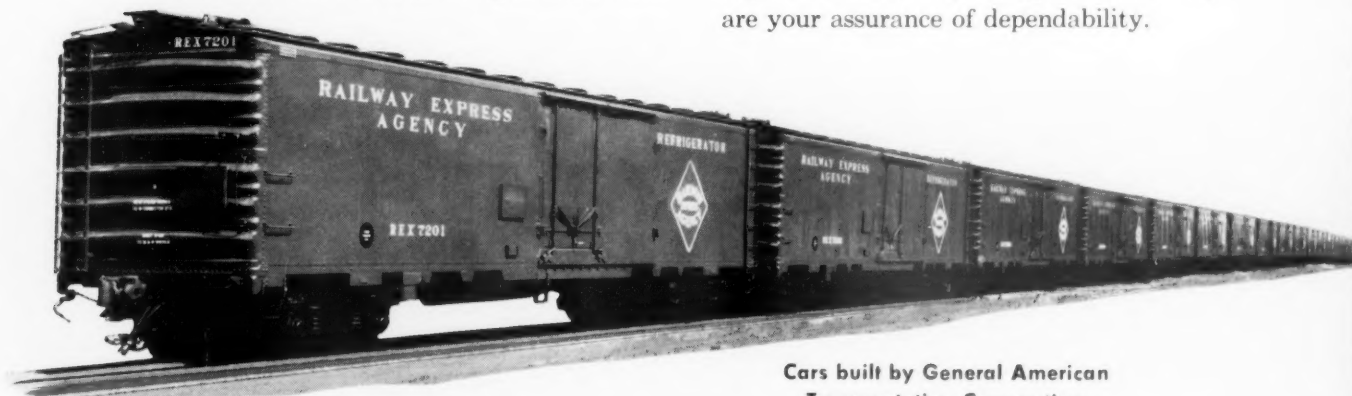
## **The Railway Express Agency orders Second Lot of 500 Express-Refrigerator Cars with Commonwealth BX Trucks**

Because of the performance of a previous lot of 500 cars equipped with Commonwealth BX Trucks the Railway Express Agency recently placed a repeat order. Here is *true proof* of satisfactory service.

Equalization, swing motion, coil springs and friction snubbers combine to provide smoother, safer riding of loaded or light cars, protecting car contents and minimizing damage claims. Rigid one-piece cast steel truck frames with integral cross trans-

soms and pedestals insure axles and bearings being in tram at all times. As the truck frame is spring supported, unsprung weight is less than with other types of trucks, reducing impact on rails, crossings and bridges. Wear of brake shoes and brake rigging is at a minimum.

Commonwealth BX Type Trucks are approved for all types of express-refrigerator, box-express and merchandise cars operating in all classes of passenger trains. They are your assurance of dependability.



Cars built by General American  
Transportation Corporation

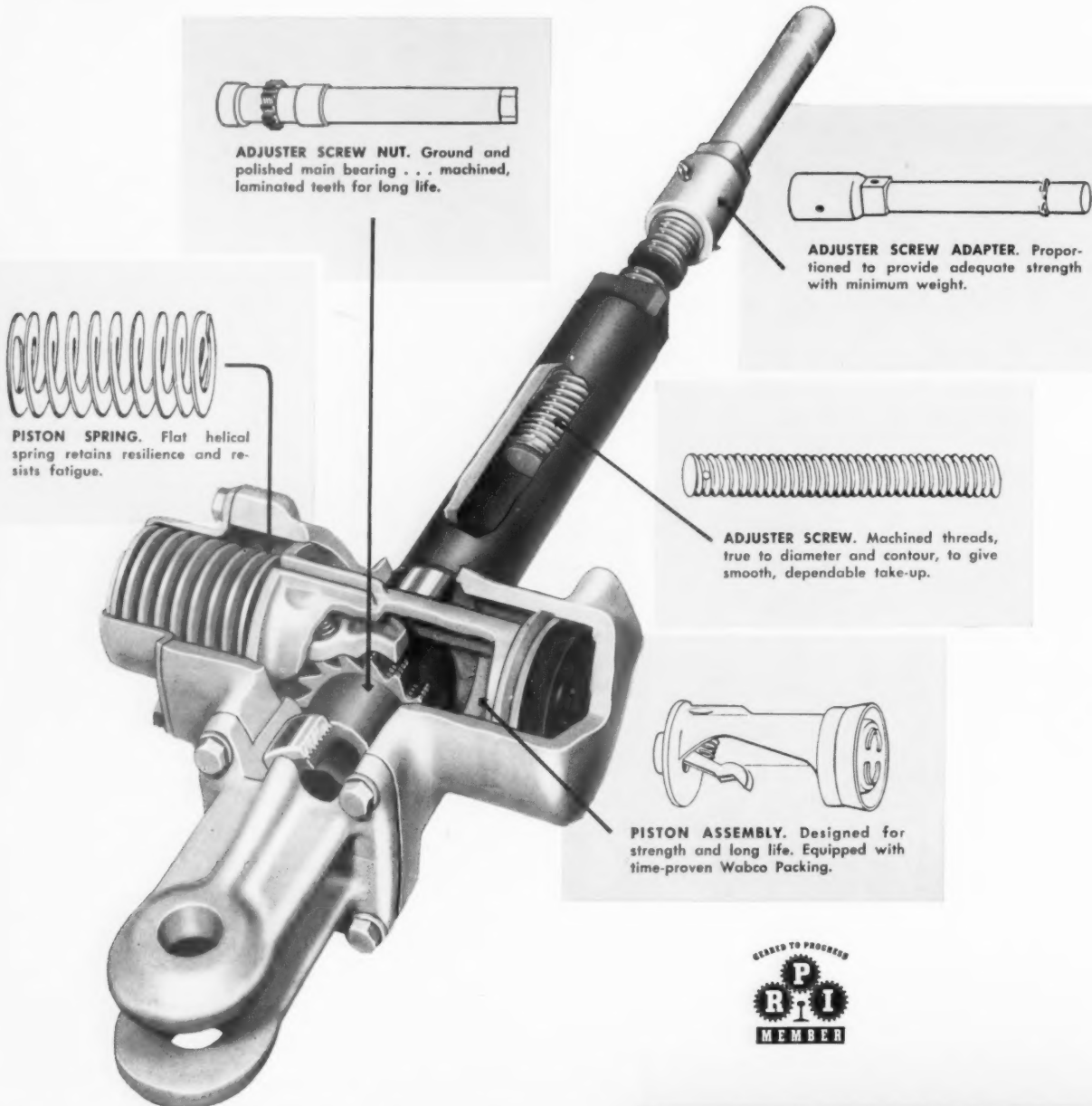


## **GENERAL STEEL CASTINGS**

GRANITE CITY, ILL. • EDDYSTONE, PA. • AVONMORE, PA.



# Here are the Reasons the Type "D" DOES THE JOB - STAYS ON THE JOB



Each of the simple, rugged operating parts in the Westinghouse Type "D" Slack Adjuster is designed to stand up under long, punishing service. The Type "D" has the same fine engineering you find in Westinghouse Air Brakes . . . the same basic design principle that has been proved in many years of passenger service.

**Westinghouse Air Brake  
COMPANY**

AIR BRAKE DIVISION



WILMERDING, PENNA.

**Westinghouse**

Type D

**Pneumatic-Automatic**

**SLACK ADJUSTER**

**for Freight Cars**

**QUESTION:** *What railway-type, small diesel engine should car builders buy to power mechanical reefers?*

**ANSWER:** *Witte's ALL-NEW diesel engine-generator unit with two horizontally-opposed cylinders for railway mechanical refrigeration service — Model 100RDA.*

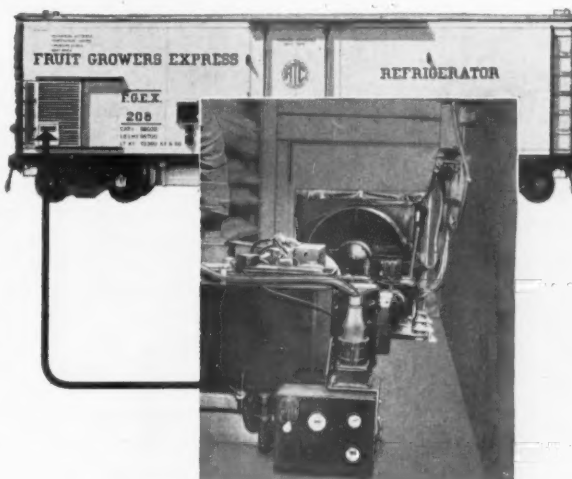
Witte's new streamlined, water-cooled Model 100RDA Diesel Engine-Generator Unit, with its two horizontally-opposed cylinders, is an accepted design for railway mechanical refrigeration.

Especially designed for severe service, the Witte 100 has a continuous rating of 18 hp (12 KW) — plus plenty of reserve power (24 hp maximum). This is adequate for cooling or heating cars up to 50' long where temperatures from -10° to 70°F have to be maintained. It is *sized-for-the-job* to give lower fuel consumption and lower maintenance cost than larger, more expensive engines.

With its horizontally-opposed cylinders, the Series 100 engine has a low center of gravity and is well-balanced and smooth running. Engine mass is concentrated on widely-spaced rubber mounting points giving positive anchorage in high-speed railway cars that are subjected to "humping" and operational shocks.



The simple design of the Witte engine makes maintenance easy. Fuel and oil filters and controls are also readily accessible. The photograph shows a check being made on a Witte Model 100RDA driving Carrier Corporation refrigeration equipment installed in a Pacific Fruit Express Company car.



Plenty of working space in this machinery compartment due to the low height of the Witte Series 100 (25 1/4"). The engine unit is in left foreground; instrument panel is in center foreground; condensing unit is at rear center; and DRC panel is on the bulkhead wall. This installation was made in a Fruit Growers Express Company car.

The Witte Series 100 operates on regular locomotive diesel fuel, and its simple fuel system is accurately governed to give close generator regulation. The package-type injection pump (comprising governor, fuel-transfer pump and shut-down solenoid) is mounted on top of the engine. An advanced precombustion chamber design gives quick and reliable starting in hot or cold climates.

*Witte . . . noted for long-lived, continuous-running engines . . . has road-tested and service-proved this railway unit in reefer applications — where only a "live" engine is an acceptable one.*

WRITE FOR MORE INFORMATION ABOUT THIS NEW WITTE . . . fill in and mail today.

## WITTE ENGINE WORKS

OIL WELL SUPPLY DIVISION UNITED STATES STEEL CORPORATION  
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1600 Oakland Avenue, Kansas City, Missouri

Gentlemen:

Tell me more about the Witte 100 Engine.

Name \_\_\_\_\_ Title \_\_\_\_\_  
Company \_\_\_\_\_  
Address \_\_\_\_\_

UNITED STATES STEEL



# How Wide Should a Car Door Be?

Research engineers of the Canadian National have spent two years designing, constructing and testing the prototype for an all-purpose box car. Door openings can be altered from 5-ft 8-in. to 15-ft 6-in. by adjusting folding panels which fit recesses inside the car walls.

Railroads have been puzzling over box car door openings for some years. Each shipper has his own peculiar requirements depending on the type of product or material he wants to ship.

Mechanization of loading and unloading has played a large part in these specialized requirements. The shipper using fork-lift trucks is not satisfied with a 6-ft opening, but wants a doorway that fork-lifts can enter with ease. One survey showed that most merchandise shippers prefer door openings at least 8 ft wide. Presumably they would be satisfied with anything wider. Some would like to have the whole car side removable.

## Railroad Requirements

There are railway requirements that come into the picture. For bulk shipments, the 6-ft door is still best. Grain, which in 1955 formed 11.9 per cent of total CNR tonnage, requires that wooden grain doors be placed inside the car across the door opening. CNR has an investment of \$1,500,000 in such grain doors, all designed to fit the 6-ft opening. The normal replacement rate would allow

a complete change to a different size in five years, but the larger doors would cost more.

These considerations indicated the desirability of a convertible car. The first concept was a 12-ft opening with a movable post in the center. This would require the use of two 6-ft grain doors on each side of the car and would double the expense of grain doors in making the car acceptable for grain service. The increased grain door inventory and the difficulty encountered in making the two sets of grain doors tight and leakproof seemed to make this design unsuitable. Removal of the movable center door post in a 12-ft opening would make the car meet the requirements of merchandise shippers. However, this car would not suit automobile shippers, because the 1957 models cannot be maneuvered through a 12-ft doorway.

Then the development turned to sliding wall panels, and plans were prepared for several variations. Panels were designed to slide on the outside of the car, to slide inside the car and to slide within the side walls. They were to be supported on rails, either at the top or at both top and bottom. These plans were discarded

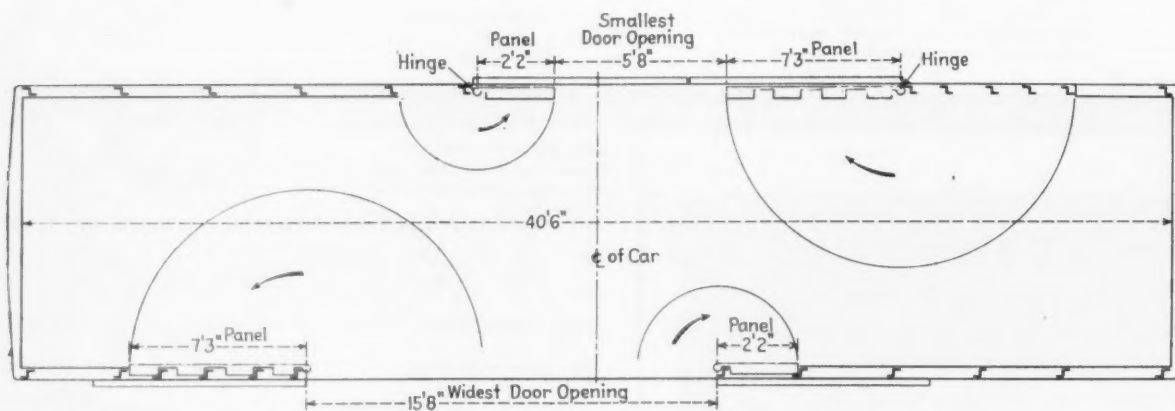
because of the complex mechanisms necessary to move and support the panels, and the difficulty in making them weathertight.

CNR engineers came to the conclusion that the simplest, most practical means of moving the panels was to hinge them. Plans for this arrangement were prepared, and a standard 40-ft 6-in. box car was remodeled with folding wall panels.

## Folding Panels

A 15-ft 6-in. door opening was made in the side and covered on the exterior by two 8-ft sliding doors. This large opening is off the center of the car—the same arrangement which is standard for auto box cars. On each side of the opening is a hinged panel—one being over three times the width of the other. When the panels are swung closed, the remaining door opening, centered in the car side, is only 5 ft 8 in. wide, which of course is suitable for grain loading. The panels fold back into recesses in the car's fixed walls. They are supported on floor-to-ceiling piano type hinges.

Work on the designs was started in 1955 and the prototype CNR 590575



"ALL-PURPOSE" CAR floor plan shows how the two side doorway widths are produced with swinging panels. Experimental conversion was made from a standard CNR 40-ft 6-in. box car.



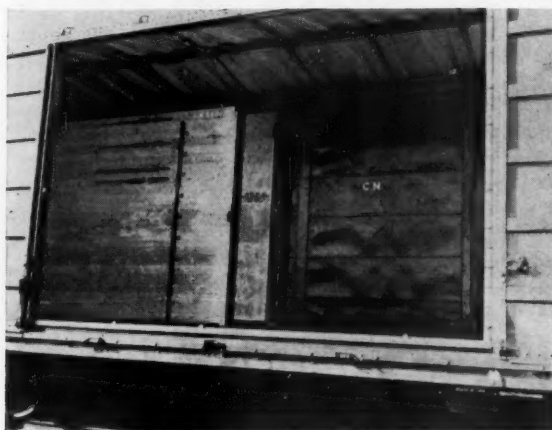
**WIDE DOOR OPENINGS** of CNR's all-purpose box car permit two lift trucks to work together for loading single large cases.

was completed in May 1956. A committee of CNR traffic, operating, car service and research people was set up to conduct tests with the car in different types of service. Shipments of china clay, grain, automobiles, lumber, newsprint, sugar in bags, woodpulp in bales, veneer, aluminum ingots and canned goods were chosen.

The first load moved in the altered car was china clay consigned from Montreal to St. Johns, Que. The load arrived at destination in good condition with bulkheads securely in place and with little leakage. The door opening was 5 ft 8 in.

In December the car left Midland, Ont., with its first load of grain for

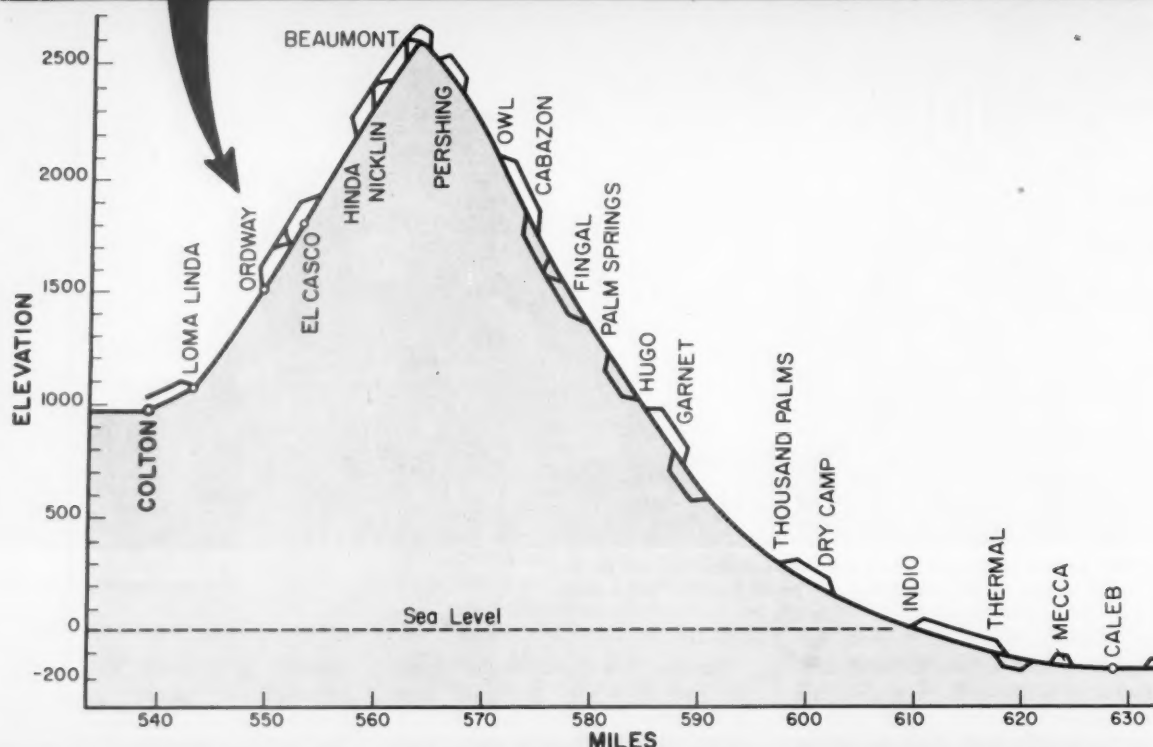
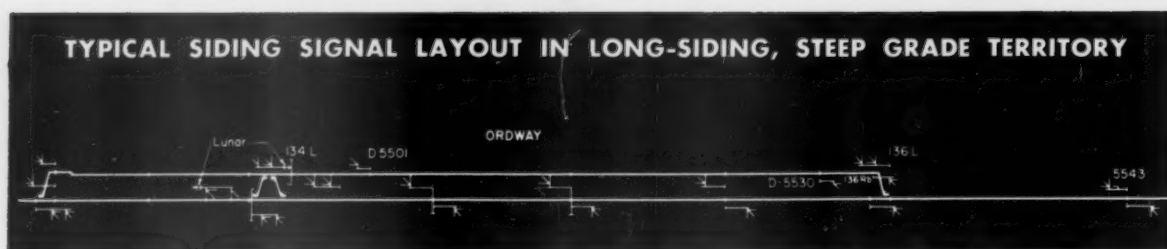
dockside in Montreal. This run was successful; the wooden grain doors remained secure throughout the trip. The car was placed in LCL service between Montreal and Toronto in January and reportedly has been performing satisfactorily. Its next loads will be bagged goods—sugar and flour; then it will handle newsprint.



**NARROW PANEL** folds into the car's side wall to produce wider opening. This panel is 2 ft 2 in. wide.



**WIDE PANEL** has been swung into the opening. Panel, 7 ft 3 in. wide, is "grooved" to fit side posts in car wall.

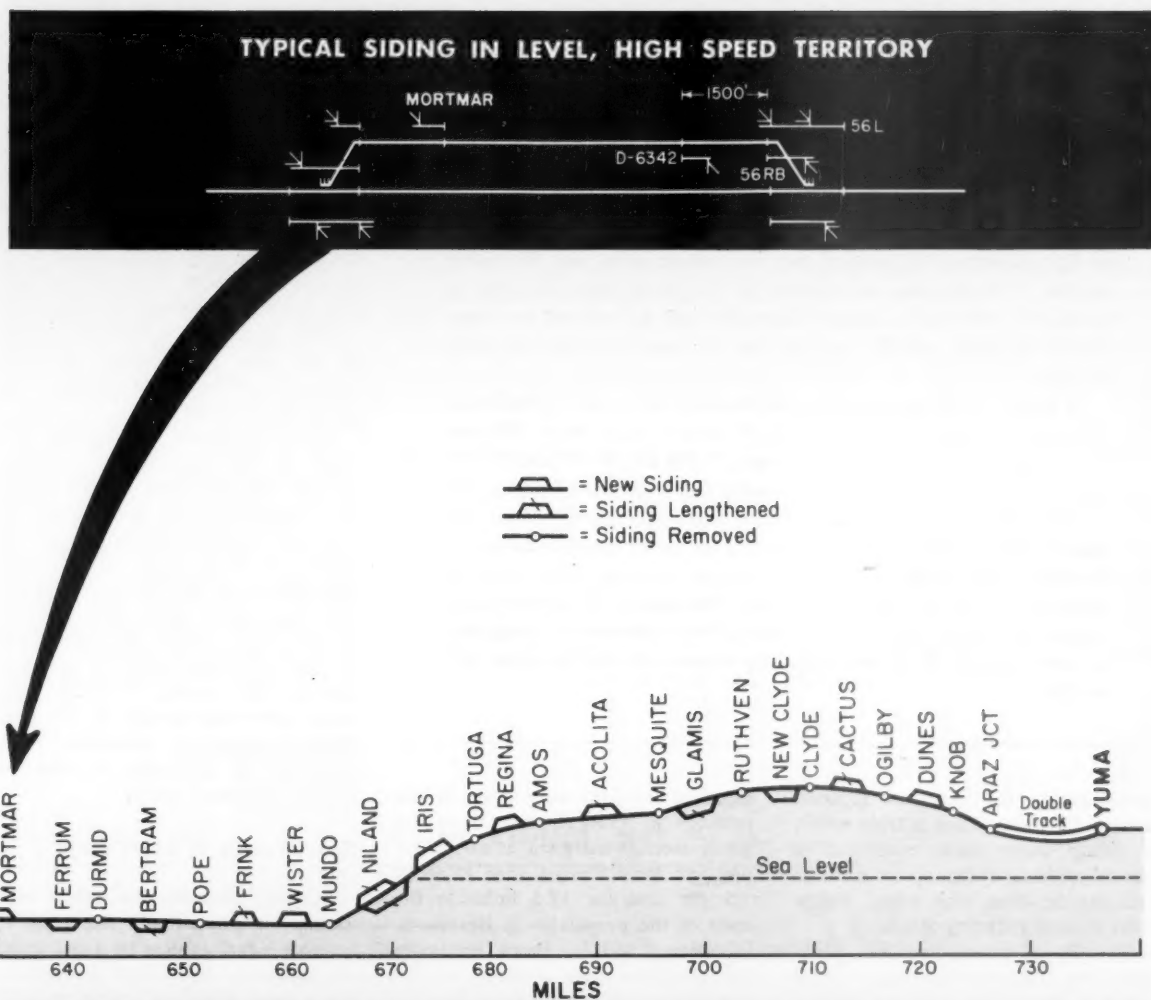


**Sidings 5 to 7 Miles Long Help Trains To Keep Moving on Long 1.9% Grades**

## How Long Sidings Lick Long Grades

**PROBLEM.** To keep trains moving on 194 miles of busy single-track between Colton, Cal., and Yuma, Ariz., handling up to 35 trains daily.

**SOLUTION.** By making practically all meets non-stop, with a specially tailored CTC installation, delays have been reduced by hours. In level territory, sidings about 9,000 ft long are spaced an average of 8 minutes apart. On 72 miles of 1.0 to 1.9 per cent grades, sidings are 5 to 7 miles long, with special signaling. New ideas included in this SP CTC—Approach signals on sidings, as well as new signaling aspect practices, “high-green” over turnout, and flashing-yellow for “call-on.”



**In Relatively Level Country 9,000-ft Sidings Are Adequate for Non-stop Meets**

By adapting centralized traffic control to the special conditions affecting train operation on the 194 miles of main line, mostly single track, between Colton, Cal., and Yuma, Ariz., the Southern Pacific has reaped substantial benefits in speeding up trains. CTC had been in service for several years between Colton and Indio, 72 miles, but that segment was considerably modified when the 122-mile installation between Indio and Yuma was completed in 1956.

Between Indio and Yuma the railroad is in open arid country with very light grades—none over 1 per cent—and only a few curves, none over 2 degrees. Between Mecca and Niland the line is below sea level. Double track, signaled for right-hand running, extends 8 miles from Indio

east to Thermal. Maximum permissible train speeds are 79 mph for passengers, 55 mph for freights.

In the Indio-Yuma territory numerous track changes were made to secure longer sidings, and they were carefully located on a time-distance basis. Each siding is now about 9,000 ft long, so that, in most instances, opposing trains can meet without either being required to stop. Based on a freight train speed of 50 mph, elapsed time from the departing end of one siding to the entering end of the next is approximately 8 minutes, roughly 6.7 miles.

No reasonable expense was spared to put the sidings in exactly the correct places. For example, a 6,966-ft siding at Knob was removed, and a new 9,000-ft siding was constructed at

Dunes, though the distance from the east switch at Dunes to the location of the west switch of the old Knob siding is only 500 ft. A 7,011-ft siding at Tortuga, and a 5,374-ft siding at Amos were removed, a new 9,000-ft siding being built midway at Regina. A study of train movements since the CTC was placed in service proves that the outlay for relocating and changing the sidings was justified.

**Distant Signal on Siding**

Each of the 9,000-ft sidings is equipped with track circuits which enter into the control of signals. With a switch reversed, the aspect for a train to enter an unoccupied siding is red-over-green, which indicates "proceed on diverging route," at speed

## THIRTY TO THIRTY-FIVE TRAINS DAILY

Traffic between Colton and Yuma includes four passenger trains and about ten through freights each way daily. The Arizona overnight "piggyback" and merchandise train is operated eastward Monday through Thursday inclusive. Iron ore from branch-line mines moves 121 miles from Ferrum to a steel mill at Fontana, Cal., which is west of Colton. About 160 loaded cars are moved west, and the same number of empty cars are returned to the mines, daily. This ore is handled in train loads, each of about 160 cars, 85 tons per car, from Ferrum to Indio, and 80 cars up the hill from Indio and on into Fontana.

At Niland a line connects from the Imperial Valley. In a typical year shipments from this valley include 11,428 cars of sugar beets, 600 cars of watermelons, 869 cars of cantaloupes, 1,204 cars of carrots, 12,996 cars of lettuce. These movements require numerous local freights and "turns" from Indio to Ferrum and return, and from Indio to Niland and return. Helper locomotives are required on heavy grades—Colton to Beaumont, and Indio to Beaumont on all tonnage trains, and on passenger trains of more than 18 cars. The return of helpers to the bottom of grades adds to the number of train movements. Altogether in some sections of this territory, daily movements may range as high as 35.

governed by the angle of turnout, usually 25 mph. When a train enters a siding under such conditions it should continue at that speed as far as this can be done with safety, rather than at once reducing speed.

Because of curves or other conditions, the engineman may have a short sighting distance to the leave-siding signal. Therefore the Southern Pacific has developed the practice of installing approach signals on sidings. Referring to the plan for Mortmar above, such an approach signal is D-6342. If the leave-siding signal, 56 RB, is displaying the Stop aspect, D-6342 displays "yellow," or if 56 RB is "Clear" then D-6342 is "green."

Double track, with each track signaled for both directions, extends from Araz Junction 6.6 miles to Yuma. At Araz Junction the single track connects to the double track in an equilateral turnout including a No. 20 frog and 30-ft switch points. Authorized speed through these turnouts is 50 mph, on the "high green" aspect. There is a similar equilateral turnout at Thermal.

### Six- Mile Sidings on Grades

On the 72 miles between Colton and Indio, CTC had been installed in 1945. Extensive track changes and

signaling revisions were made in this territory in 1956. From Colton the grade ascends eastward at about 1.0 per cent for 5.5 miles, then at about 1.5 per cent for 17.5 miles to the crest of the mountains at Beaumont, elevation 2,569 ft. From Beaumont the grade descends eastward (at 0.9 per cent to 1.9 per cent) for 20 miles to Palm Springs, and then at 0.4 per cent to 1.8 per cent, 20 miles more to Indio.

Ascending these grades, either way, passenger train speed is 25 to 30 mph, and tonnage freights, 15 to 18 mph. Descending, passenger train speed is about 45 mph, and the freights, 25 mph. An important operating problem was to avoid stopping trains, especially on ascending grades, when making meets. The solution was to introduce very long sidings (5 to 7 miles) so that as much as 10 to 12 minutes would be available to make a meet, with neither train being required to stop. Trains running at 25 mph or less, ascending or descending the heavy grade, would, in most instances, not be required to reduce speed while entering or leaving sidings.

Accurate checks were made to record train speeds and the exact time of numerous trains on each section of main track. On this basis, the very long sidings, 5 to 7 miles, were

planned. In most instances each long siding was made possible by building a two- or three-mile connection between two existing short sidings (6,500 ft). Yet these 6,500-ft sidings were advantageous in making close meets between passenger trains. This need was met by installing a pair of power crossovers between the main track and the long siding, either near the center or about 7,000 ft from one end. Another advantage of the intermediate crossovers is that two trains of the same or opposing direction can use the siding while another train passes on the main track.

While designated as "sidings" insofar as train operations are concerned, actually these second tracks are constructed and maintained for safe and efficient train operation at speeds up to 25 mph. The turnouts and crossovers are No. 14, good for diverging speeds at 25 mph. Because of the heavy grades, the main track speeds of freight trains in this section do not exceed 15 to 18 mph, when ascending grades, or 25 mph when descending, therefore these trains usually can enter or leave the sidings at normal speeds.

### Special Aspects Avoid Stops

Having planned the extra long sidings, it was equally important to provide signal aspects to direct trains to approach, enter, and proceed on these long sidings at maximum safe speeds. Some additional signal aspects, not previously used on the Southern Pacific, were required.

The track and signal layout at Ordway is typical. To enter an unoccupied siding the normally used aspect is "red-over-green," which indicates "proceed on diverging route," speed being governed by the nature of the turnout, usually 25 mph. When this "red-over-green" aspect to enter the unoccupied siding is displayed on 136L, then the approach signal 5543 displays the "yellow-over-green" aspect. This gives the engineman advance information so that he can bring his train up to and through the turnout at 25 mph, whereas, if only the customary approach aspect "yellow" were displayed, he would have to reduce speed prepared to stop short of signal 136L. Thus the "yellow-over-green" on the approach signal avoids a speed reduction and thus saves time.

If the crossovers are normal, and

the section of siding between the crossovers and the west end is unoccupied, signal 134L can be controlled to display "yellow."

If the section of siding between the crossovers and the west end is occupied by a train of the same direction (westward in this instance) signal 134L can be controlled to display "red-over-red-over-lunar" aspect, this lunar lamp being mounted on cantilever mast below and in line with the two signal heads. This aspect authorizes a train to proceed without stopping at "restricted speed" prepared to stop short of a train of the same direction. This is a new use of the "lunar" as a signal aspect. If crossover 131 is reversed for the west-bound train on the siding to diverge to the main track, then signal 134L can be controlled to display the "red-over-green" aspect and the approach signal D-5501 would display "green."

A point of special interest is that the five miles of main track along the siding is cut into five automatic blocks

by three double locations of automatics and the home signals at the crossovers. The purpose for so many automatic blocks in this five miles is to provide every opportunity for trains on the main track (when making a meet) to keep moving without a stop, if the other train is just getting in the clear on the siding. Also these signals are an aid for following moves on a heavy ascending grade.

The extent to which signals are thus used in CTC is a new idea, developed by the Southern Pacific, and has proved to be an important factor in making non-stop meets.

#### **Much Train Time Saved**

Another aid in making non-stop meets is to route the first train to arrive, regardless of class, to the siding. Thus in many instances a passenger train is routed through a siding, though it does not lose appreciable time in doing so.

The new CTC between Indio and

Yuma, with 9,000-ft sidings, and the new 5- to 7-mile sidings introduced in the existing CTC on the heavy grades between Indio and Colton, have been effective in eliminating many train stops and delays. The turnarounds that start from Indio and go to Ferrum to pick up ore, and go back to Indio, are saving three hours. The run from Indio to Fontana, with this ore, is saving three hours. Most all tonnage freights are saving about two hours either way, over the grades between Linda Loma and Indio. Previously, helpers lost a lot of time when waiting to return to the bottom of the grade. Now, helpers can make about four trips (Indio to Beaumont and return) in 16 hours.

This project was planned and constructed by signal forces of the Southern Pacific, under the jurisdiction of H. B. Garrett, signal engineer, the major items of equipment being furnished by Union Switch & Signal Division of Westinghouse Air Brake Company.

## **Railroading**



## **After Hours** with *Jim Lyne*

**AGE OF RETIREMENT**—There is always a lot of discussion going on about what is the right age at which officers holding important positions should retire. Many roads have been reducing the mandatory limit from 70 to 65, neither of which ages might be ideal, in the case of a particular individual. The Economist (London) says it isn't the age of the man who's retiring that is important (for the good of the business, that is), but the age of his probable successor.

The Economist's argument goes something like this: If the second man is 15 years younger than the top man and is fully capable of taking over the job at 45, then he may develop "frustration and jealousy" if he has to wait 10 years to get to the top. That is, if he has to wait too long for the top job, he may fall into habits of thought and action which in some measure may disqualify him for aggressive leadership.

I don't say this contention is right—but it is the first time I ever heard of approaching the retirement age problem from the standpoint of the second man. He is, after all, a pretty important fellow.

**GAS TAX FOR EL?**—I see where the head of the Chicago Transit Authority proposed a couple of weeks ago that the authority get some of the state tax on gasoline, to offset its deficit after depreciation and debt-service charges. Well, why not?

The authority head reasoned it this way: If just one of the Chicago elevated lines were to close down, it would require an 8-lane superhighway to haul the passengers that now use this el. It would be much cheaper for high-

way users to make a slight contribution to enable the el to continue in operation, rather than to have to assume the cost of highway facilities to replace it.

When a fellow commutes by train instead of by auto in one of these big cities, he does a favor to the community—indeed, he performs a civic duty.

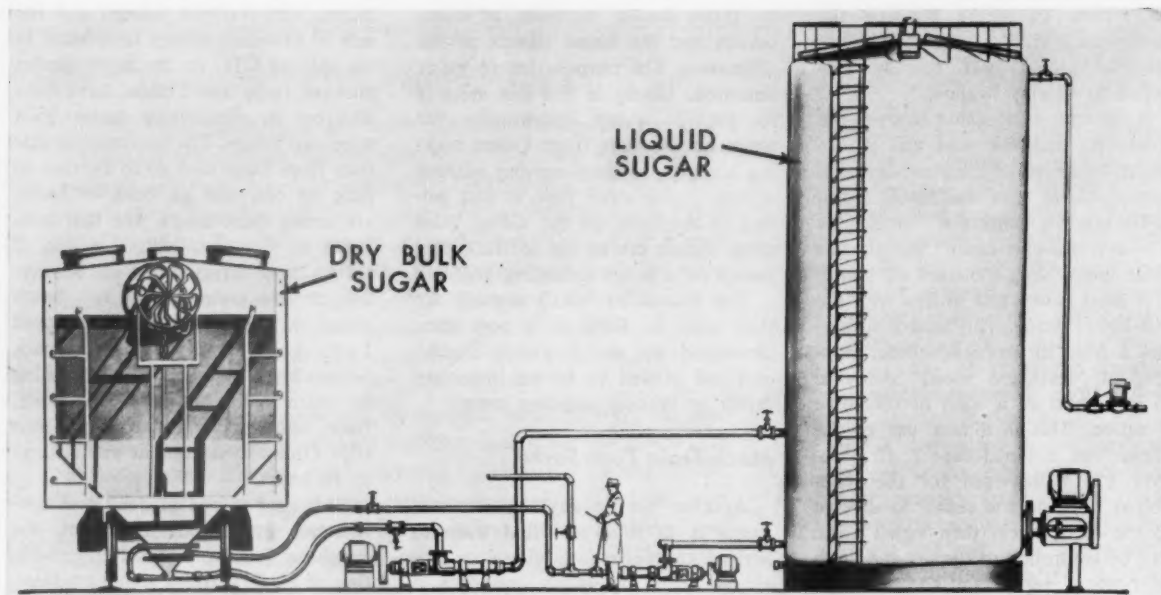
**MORE ON SHOO-FLY**—John D. Mitros of the Illinois Central Magazine has given me what looks like the real McCoy on the origin of the term "shoo-fly." The Dictionary of Americanisms, JDM points out, says the word goes back to the well-known Civil War song "Shoo-Fly Don't Bother Me," after which a dance was named. The term was later applied to a kind of hobby-horse on widely separated rockers, and from that use was transferred to a railroad by-pass track. The idea was that of "not going anywhere very fast," applicable both to the hobby-horse and the by-pass.

If that's how the authorities explain it, probably they're right, but it still sounds rather far fetched to me.

Mr. Mitros sends along a page from the November 1956 issue of the IC Magazine—in which the origin of a number of railroad terms is explained, all from the same authoritative source.

I wonder who it was started calling oiled waste "dope," and why—and who later got to applying the term to lubricants with no waste involved (e.g., "pin dope").

Another interesting word is "caboose," and it seems to be exclusively American in its railroad usage—although, I believe, our Mexican neighbors have also taken it over.



RECIRCULATION of solution takes up solid sugar, emptying car in five hours.

A NEW WAY TO UNLOAD . . .

## Bulk Sugar Comes Out Liquid

Today, when dry bulk granulated sugar is delivered to a food processor's plant it can be unloaded directly from a railroad hopper car as liquid sugar. The key to this new system is a portable metal converter, or dissolving device, which blends bulk granulated sugar and water according to exacting specifications. Delivering liquid sugar for distances of over 100 miles from a refinery has not been considered economical, because liquid sugar contains about one-third water.

Many food and beverage processors, however, prefer to receive sugar

in liquid form. Now, it is possible, for the first time, to ship the equivalent of liquid sugar over any distance. Using the converter, or liquidizer, a 140,000-lb capacity covered hopper car can be unloaded and its contents converted to a liquid sugar solution in about five hours. In addition, elimination of intraplant sugar handling is said to mean big savings for industrial sugar users.

A sugar liquidizing unloading system, as developed by the Amalgamated Sugar Company, of Ogden, Utah, costs the receiver between \$16,000 and \$18,000, including two 15,000-gal storage tanks. Amalgamated's experience shows that an installation can be economical for users requiring the equivalent of 10,000 100-lb bags (500 tons) of sugar per year. The unit will pay for itself in from two to five years, Amalgamated claims, depending on the volume of sugar used and the size of the original installation.

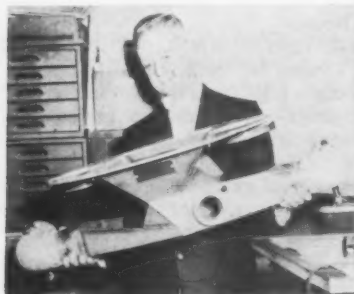
The new liquidizer system is easy to hook up. In about five minutes one man can position and connect the 25-lb converter or dissolving device to the unloading flange of any car used for bulk sugar handling. While

in use, the system requires only an occasional check.

In operation, a steady flow of granulated sugar falls by gravity into a stream of water, which is pumped into a storage tank. The mixture is recirculated to gather more sugar until the desired solution is obtained. For example, if a hopper car holds 100,000 lb of granulated sugar, then 50,376 lb of water are needed to convert the car of bulk sugar into a 66.5-deg (Brix scale) liquid sugar.

Five installations are already in operation, and all have resulted in major cost reductions. Two of these installations are operated by Amalgamated, at Seattle, Wash., and Ogden; two are at carbonated beverage plants—John Graf Company, Milwaukee, Wis., and Conway Springs Bottling Company, Wichita, Kan., and the fifth is at a large dairy products plant—the Galloway Company, Neenah, Wis.

Amalgamated is currently testing the liquidizer for unloading other commodities shipped in bulk form, such as salt. In recent tests di-ammonium phosphate was successfully converted into liquid fertilizer during unloading operations.



CONVERTER made of aluminum is bolted to hopper car bottom.

IN SEVEN-YEAR "TRIAL" . . .

## Spain's 'Talgos' Pass Million-Mile Mark

Preventive maintenance keeps units operating smoothly with minimum parts replacement—Passengers continue to prefer these trains despite extra fare

Spain's two "Talgo" trains are "like new" after nearly seven years' revenue service, totaling more than 1,000,000 miles. This is the report of Samuel M. Felton, president of the "Talgo's" builder, American Car & Foundry Division of ACF Industries, after a recent trip to study the condition, performance and acceptance of these pioneer lightweight, low center of gravity trains.

The trains went into revenue service July 14, 1950, after extensive tests, but their performance ever since has been in the nature of a long-term test. The trains are run as part of the Spanish government railroad system, but maintenance is carried out in the private shops of the Oriol brothers, under whose auspices the trains were developed and inaugurated.

Spanish engineers, Mr. Felton reports, find the "Talgo" equipment easy to work with because of the light weight of the parts. Workmen easily push the units about the shop for coupling or uncoupling, and cranes are not ordinarily necessary for maintenance work.

The trains still have their original brake shoes. The rubber bushings and shock absorbers also are basically still original. In seven years two of the coil springs have been broken; the others are still in service. There have been only two bearing failures. The original "rubber-sandwich" type wheels are still running without replacement, on the second set of treads.

The "Talgo" schedule is 8 hours for the 400-mile run between Madrid and Hendaye on the French border. To maintain this 50-mph average with nine stops, the trains hit speeds up to 80 mph. The legal limit for this equipment is 88 mph, which compares with 56 mph for regular equipment. On-time arrivals are reported 98% of the time.

Mr. Felton found that the "ride" of the trains and the interior noise level are in direct ratio to roadbed conditions. On much of the line the rail joints are opposite each other, and the rails are the same length as the wheelbase of the cars, a condition particularly conducive to vibration. Nevertheless vibration is not considered serious, and on stretches of welded rail a superior ride is experienced.

In Spain the "Talgo" is an extra-fare train. Tickets cost a little over two cents per mile, or double the regular base fare. Despite this, travelers show a definite preference for the fast, air-conditioned "Talgos," and they run at an average of 90% of capacity. Meals are served at seats, airplane style. One unit in the train is a service car with two kitchens and two cooks.



SAMUEL M. FELTON (center), president of American Car & Foundry Division, found that crews take great pride in their trains.



PREVENTIVE MAINTENANCE in the shops of Patentes Talgo, operated by the Oriol organization, keeps the trains always in top condition.



PASSENGERS PREFER the "Talgo," Mr. Felton reports, despite the extra fare. The trains regularly average 90% occupancy on their 400-mile run.



America's know-how and skill made this possible...



and in America...it's Simtex know-how and skill that make this possible



In America the most famous hotels from coast to coast use Simtex napery because of its fine texture that stays luxurious . . . and because of a surface that keeps its gleaming freshness. Even after countless launderings Simtex tablecloths retain that fine and crisp hand. And thanks to the exclusive Basco protective process that is applied permanently to the fiber itself you are assured of unsurpassed durability and long range economy. All of these are the result of Stevens Simtex long experience and highly developed skills. Remember Simtex napery is made right in America.

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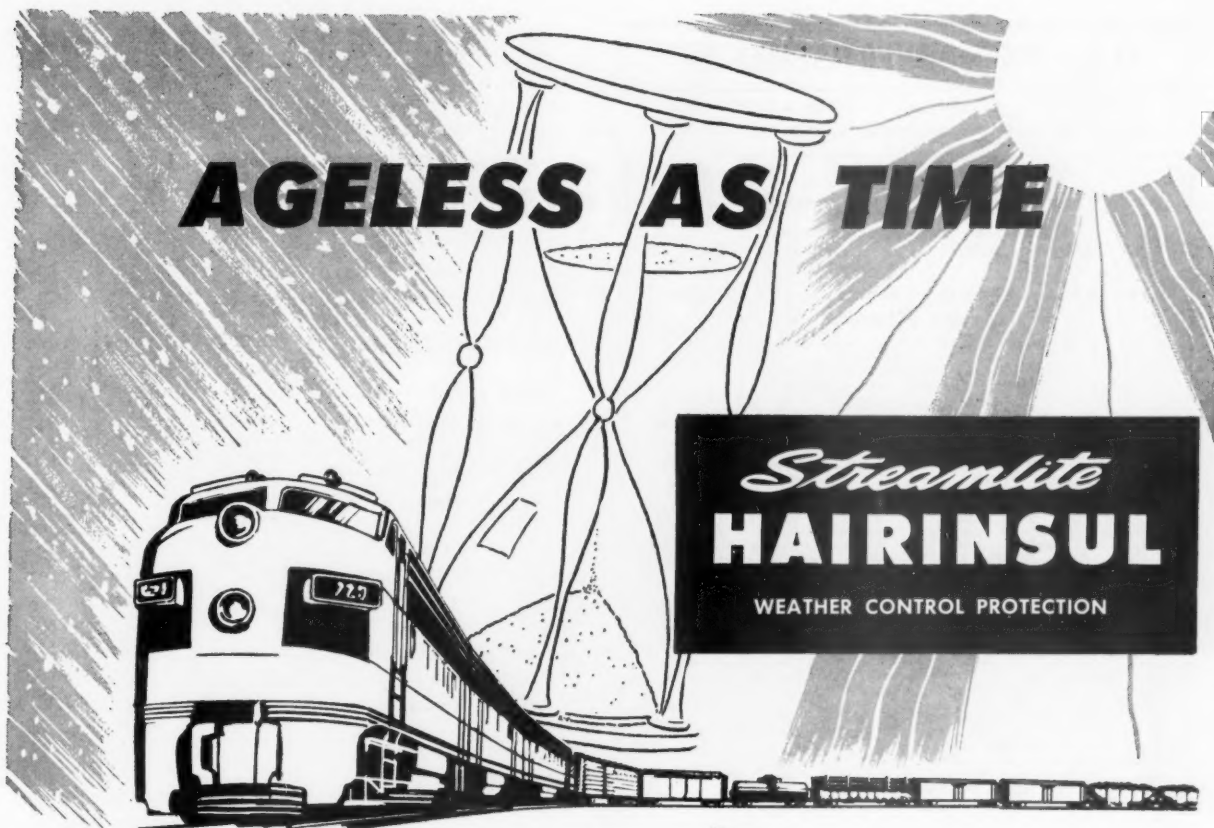
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## REVENUES AND EXPENSES OF RAILWAYS

(Dollar figures are stated in thousands; i.e., with last three digits omitted)

MONTH OF JANUARY OF CALENDAR YEAR 1957

Name of Road	Average mileage operated during period	Operating Revenues		Total (Inc. misc.)		Total (Inc. misc.)		Total (Inc. misc.)		Operating Expenses		Total (Inc. misc.)		Total (Inc. misc.)		Operating ratio		Net from railway operation		Net Railway operating income	
		Freight	Pass.	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956
Louisiana & Arkansas.....	746	2,245	52	2,404	2,321	215	206	19	298	279	98	81	710	1,389	1,341	57.8	57.8	1,015	441	425	460
Louisville & Nashville.....	4,731	15,783	915	17,968	17,621	2,675	2,503	233	3,874	3,473	1,009	394	6,796	14,538	13,752	80.9	78.0	3,429	2,638	2,396	2,399
Maine Central.....	944	2,262	96	2,510	2,194	461	394	27	425	387	80	26	924	1,966	1,792	78.3	81.7	544	246	178	127
Manassas Park.....	1,377	1,346	1	1,357	1,358	22	23	3	284	310	19	104	617	1,253	1,253	83.0	83.0	152	181	98	90
Minneapolis, Northfield & Southern.....	1,777	1,446	54	1,557	1,558	21	21	1	566	566	126	102	1,397	2,973	2,824	99.4	98.9	175	248	171	141
Minn., St. Paul & S. Ste. Marie.....	3,222	2,785	361	3,176	3,176	615	566	50	691	654	126	102	1,397	2,973	2,824	99.4	98.9	175	248	171	141
Missouri-Illinois.....	172	361	...	364	330	58	59	6	95	77	30	13	112	200	252	79.7	76.3	74	44	45	59
Missouri-Kansas-Texas Lines.....	3,183	5,188	202	5,928	5,764	992	729	94	1,055	878	240	246	2,563	5,200	4,962	87.7	81.4	728	461	184	274
Missouri Pacific.....	9,662	21,975	1,016	25,189	24,537	3,394	3,353	300	4,670	4,556	1,013	737	9,764	19,574	18,813	77.7	76.7	5,615	1,623	2,932	3,278
Monon.....	571	1,570	80	1,803	1,754	277	291	16	300	287	74	109	764	1,578	1,562	87.5	88.9	226	116	5	17
Mt. Vernon.....	1,043	2,244	138	2,732	2,986	480	470	43	440	424	137	125	1,191	2,293	2,307	83.9	77.2	439	263	164	331
Nashville, Chattanooga & St. Louis.....	10,613	47,026	8,351	62,620	64,982	6,440	5,785	1,028	11,738	10,916	2,281	1,297	29,872	53,137	52,091	88.0	80.2	9,482	5,972	1,810	4,308
New York Central.....	221	3,497	72	3,773	3,447	555	479	133	1,031	953	237	94	1,402	3,321	3,019	88.9	87.6	452	732	807	836
Pittsburgh & Lake Erie.....	2,179	13,713	197	14,311	13,999	1,455	1,551	151	2,488	2,200	421	378	5,525	10,402	9,717	72.7	69.4	3,909	1,811	1,513	1,699
New York, Chicago & St. Louis.....	1,762	7,093	4,580	13,304	12,784	1,645	1,569	262	2,172	2,492	468	223	6,538	11,496	11,715	86.4	91.6	1,808	1,005	540	1,273
New York, New Haven & Hartford.....	1,329	4,553	2	4,555	4,553	10	9	1	15	17	..	..	..	..	..	..	..	182	91	99	199
New York, Ontario & Western.....	541	433	...	446	407	104	94	25	72	75	17	..	..	..	..	..	..	182	91	99	199
New York, Pennsylvania & Maryland.....	9,901	62,108	11,638	82,174	77,598	9,109	7,938	1,480	17,090	16,510	3,016	1,441	38,101	70,331	66,437	85.6	85.2	11,844	5,810	2,766	2,957
Norfolk & Western.....	120	398	47	461	429	50	50	6	64	60	12	9	222	376	369	81.6	86.1	85	36	—	4
Norfolk Southern.....	2,132	18,614	285	19,899	18,807	2,970	2,602	320	4,461	4,293	846	374	6,400	15,007	14,069	75.5	74.8	4,882	3,193	2,746	2,511
Norfolk Western.....	604	874	...	900	804	180	186	13	152	125	30	56	292	742	678	82.5	84.4	158	77	55	36
Norfolk Southern.....	6,832	12,776	545	14,327	14,015	1,751	1,653	278	2,873	3,051	628	415	6,423	12,492	12,272	87.2	87.6	1,835	1,523	464	309
Northwestern Pacific.....	329	853	2	867	861	258	87	15	95	75	4	..	..	..	..	..	..	182	91	99	199
Pennsylvania.....	9,901	62,108	11,638	82,174	77,598	9,109	7,938	1,480	17,090	16,510	3,016	1,441	38,101	70,331	66,437	85.6	85.2	11,844	5,810	2,766	2,957
Pennsylvania-Reading Seashore Lines.....	358	639	73	730	660	200	189	24	133	119	27	10	520	908	854	124.5	129.4	—	179	96	—
Piedmont & Northern.....	128	476	...	485	533	42	45	4	31	28	9	31	87	227	222	46.9	41.7	258	125	79	105
Pittsburgh & West Virginia.....	1,304	10,949	634	12,251	11,448	1,555	1,435	201	2,424	2,125	483	204	5,155	9,446	8,888	80.4	77.6	2,405	741	1,023	1,107
Reading.....	118	1,352	553	2,494	2,360	256	236	25	353	329	67	30	813	1,590	1,537	66.4	65.1	805	422	265	279
Richmond, Fredericksburg & Potomac.....	391	422	...	446	432	85	87	5	63	52	16	28	173	384	357	85.9	85.3	63	28	21	21
Rutland.....	349	161	1	169	145	70	106	5	15	15	15	6	2	70	178	207	105.4	142.8	—	18	—
Sacramento Northern.....	4,610	8,872	411	9,960	9,626	1,477	1,516	152	1,739	1,679	569	399	4,191	8,470	8,030	85.0	83.4	1,489	796	610	785
St. Louis-San Francisco.....	1,555	3,900	3	4,161	3,663	41	38	6	28	48	1	28	168	278	280	66.8	77.1	138	47	39	3
St. Louis, San Francisco & Texas.....	1,560	5,511	21	5,641	5,594	740	680	68	748	632	153	202	1,758	3,618	3,453	64.1	61.7	2,022	955	783	920
Savannah & Atlanta.....	144	297	...	312	326	54	48	2	46	41	19	16	97	224	206	72.0	63.2	87	28	62	58
Seaboard Air Line.....	4,062	12,352	1,301	14,650	14,154	2,088	2,022	203	2,567	2,472	625	421	4,983	10,728	10,264	73.2	71.5	3,922	1,625	1,988	2,141
Southern Railway.....	6,281	20,687	1,465	23,684	22,889	2,922	2,968	267	4,194	4,073	992	483	7,403	16,295	15,707	68.8	68.6	7,389	3,478	3,553	3,496
Alabama Great Southern.....	328	1,415	59	1,576	1,572	396	323	32	308	330	73	73	417	840	803	74.6	74.6	322	104	180	187
Ginn, New Orleans & Texas Pacific.....	337	2,858	153	3,198	3,304	567	643	65	662	665	178	82	889	2,416	2,451	75.6	74.2	782	369	495	489
Georgia Southern & Florida.....	475	787	75	931	871	197	222	11	80	82	12	29	286	659	632	70.7	72.6	272	41	44	14
New Orleans & Northeastern.....	204	939	42	1,044	1,095	157	166	21	164	151	61	24	259	687	658	63.2	70.7	272	41	44	14
Southern Pacific.....	8,097	35,901	2,495	41,016	41,110	5,185	5,097	469	8,843	8,180	2,108	900	16,960	34,139	33,502	81.5	81.5	6,876	3,221	3,111	3,594
Texas & New Orleans.....	4,297	10,786	362	11,834	11,341	2,053	2,169	131	1,534	1,713	180	265	4,333	8,811	8,859	74.5	73.3	3,022	1,194	657	674
Spokane International.....	150	208	...	217	285	53	55	3	27	29	10	6	64	163	177	75.0	62.3	54	16	15	7
Union Pacific.....	9,786	36,057	2,255	40,900	38,529	4,663	5,172	459	8,550	7,893	1,725	1,317	14,650	31,522	30,741	77.1	79.8	9,798	5,834	2,145	1,907
Virginian.....	611	5,023	...	5,023	4,777	566	422	64	701	548	227	60	1,018	2,068	2,068	46.2	43.3	2,139	1,528	1,536	1,417
Wabash.....	2,392	8,849	432	10,104	9,478	1,081	1,082	139	1,524	1,446	403	350	4,487	7,912	7,435	78.3	78.4	2,192	752	728	665
Tennessee Central.....	294	745	...	745	741	741	741	741	741	741	741	741	741	741	741	741	741	741	741	741	741
Texas & Pacific.....	1,831	6,132	328	6,968	7,004	1,047	1,124	91	1,133	1,005	255	211	2,539	5,336	5,173	74.4	73.4	1,652	671	474	746
Texas Mexican.....	161	245	...	268	228	56	48	6	32	27	10	11	80	200	174	74.6	73.8	68	27	10	10
Toledo, Peoria & Western.....	239	621	...	626	626	70	100	6	53	45	12	50	160	373	388	59.2	62.9	257	130	84	76
Union Pacific.....	9,786	36,057	2,255	40,900	38,529	4,663	5,172	459	8,550	7,893	1,725	1,317	14,650	31,522	30,741	77.1	79.8	9,798	5,834	2,145	1,907
Virginian.....	611	5,023	...	5,023	4,777	566	422	64	701	548	227	60	1,018	2,068	2,068	46.2	43.3	2,139	1,528	1,536	1,417
Wabash.....	2,392	8,849	432	10,104	9,478	1,081	1,082	139	1,524	1,446	403	350	4,487	7,912	7,435	78.3	78.4	2,192	752	728	665
Tennessee Central.....	294	745	...	745	741	741															



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Car building engineers have long recognized that Streamlite HAIRINSUL is the most efficient insulation under all operating conditions. A half century of successful use is proof enough that service conditions never retard its high insulating efficiency.

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**AMERICAN HAIR & FELT COMPANY**  
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1. **LOW CONDUCTIVITY.** Thoroughly washed and sterilized, all-hair heat barrier. Rated conductivity—.25 btu per square foot, per hour, per degree F., per inch thick.
2. **LIGHT WEIGHT.** Advanced processing methods reduce weight of Streamlite Hairinsul by 40%.
3. **PERMANENT.** Does not disintegrate when wet, resists absorption. Will not shake down, is fire-resistant and odorless.
4. **EASY TO INSTALL.** Blankets may be applied to car wall in one piece, from sill to plate and from one side door to the other. Self-supporting in wall sections between fasteners.
5. **COMPLETE RANGE.** Streamlite Hairinsul is available 1/2" to 4" thick, up to 127" wide. Stitched on 5" or 10" centers between two layers of reinforced asphalt laminated paper. Other specified coverings are available.
6. **HIGH SALVAGE VALUE.** The all-hair content does not deteriorate with age; therefore has high salvage value. No other type of insulation offers a comparable saving.



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### RAILROAD LOCOMOTIVE STEAM WRECKING CRANE

75 tons; 56½" gauge; 12 wheel drive; 24' boom; oil burning; shipping weight, approximately 195,300 lbs.; serial number 11597. Mfd. by Industrial Brownhoist Corp.

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**The world of science behind  
EXIDE-IRONCLAD BATTERIES**



*Being interviewed is W. W. Smith, Divisional Manager, Product Engineering. Grids in back are of Exide's exclusive Silvium. Those in front are ordinary alloys.*

**"All of these alloys had the same acid test"**

*At the Exide Laboratories—***Reporter:** Was it a typical charge-discharge test normally used to test battery components?

**Smith:** Right. And the two positive plate grids with no visible signs of corrosion are Exide's patented Silvium alloy.

**Reporter:** How about the others—what alloys are they?

**Smith:** They're standard alloys used in other well-known makes of batteries. But they don't have Silvium's corrosion-resisting ingredients.

**Reporter:** Where is Silvium used?

**Smith:** In the positive plates of all Exide-Ironclad and many other Exide Batteries.

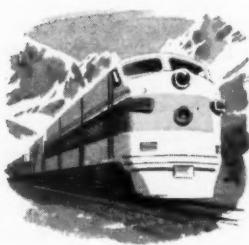
**Reporter:** How does it affect battery performance?

**Smith:** Every test we've made proves it stretches battery life because the grid resists corrosion—sometimes up to 100% longer.

**Reporter:** Obviously this is an important feature of the Exide-Ironclad.

**Smith:** Yes it is, but it's just one of many engineering details that contribute to its high capacity and long life.

**Note to battery users:** Whenever you order heavy duty batteries or the equipment that requires them, be sure to specify Exide-Ironclad. For detailed bulletin, write Exide Industrial Division, The Electric Storage Battery Co., Philadelphia 2, Pa.



THE ELECTRIC STORAGE BATTERY COMPANY **Exide®**

## Time to Move for Passenger Profits

The outlines of a program which should move the passenger business a long way toward black ink are becoming more discernible. This design should become progressively clearer as 1957 runs its course. To be more specific:

There are few people who have studied the passenger business intensively who would not agree with W. R. Main of the New York Central as to several categories of this traffic which probably have potential for growth. As outlined recently by him at Ann Arbor (Railway Age, March 11, p. 9), these categories are:

### *Where the Growth Potential Is*

1. Fast service with few intermediate stops, 200-600 miles, between centers of population.
2. Overnight service, up to 1,200 miles.
3. Commuter traffic into large cities (provided tax relief and other community contributions—comparable to those benefiting highway traffic—are accorded).

There are other close observers of this traffic who would add a couple of additional kinds of business to Mr. Main's list, viz.,

4. Transcontinental and other long-haul service, both coach and "de luxe," for passengers who want to see the country—and to whom comfort and safety are more important than speed.
5. Head-end business which, despite erosion to air and highway, is still large; and could probably be developed and made more profitable by improved methods of handling, including expanded use of trucks by the railroads.

Mr. Main emphasized the importance of recent designs of equipment, with reduced first cost and economy in maintenance and operating costs. He also laid great stress on the necessity of having centers of population at either end of a run, if it is to be profitable.

**People haven't quit riding trains and haven't quit wanting to ride trains. They just prefer other forms of transportation for some of the kinds of trips they used to make by train because, in those days, no other transportation was available.**

It is the loss of traffic for which trains never were particularly convenient that has made the passenger business as a whole look so sick. When the railroads limit themselves as much as possible to the kind of service they can do well—and actually perform satisfactorily and price wisely in this service—then passenger traffic and earnings should get onto a growth curve again.

Apart from the encouraging facts about passenger service possibilities that railroad men on the job are beginning to see more clearly, there are some parallel endeavors which should be most helpful. There is, for

### THIS RELATES TO:



- 1—Challenging competition
- 2—Holding to high service standards
- 3—Increasing internal strength
- 4—Getting a higher level of earnings
- 5—Improving tools and methods
- 6—Seeking a friendlier environment

instance, the enlightening Harvard study on cost controls for passenger service by Dr. Dwight Ladd (Railway Age, Jan. 28, p. 22). And another Harvard research study on the marketing of passenger service, by Professor James Parks, scheduled for publication later on in the year.

It remains to be seen, of course, just how constructive the ICC investigation into the "passenger deficit" is going to be. But from what we have heard—both on the ICC and the railroads' side—of preparations for this investigation, there is reason to believe that it may bring to light a great deal of new and helpful information.

The naming by the Railway Progress Institute of a passenger research committee—made up for the most part of manufacturers with an economic stake in the future of passenger traffic—is just one more effort which, added to those already under way, gives further assurance that 1957 should be a year of progress in readjusting this service from a loss to a profit basis.

### *Profit Possibilities*

Some of the larger roads, running one or two long-haul trains which are well patronized, are willing to incur moderate losses on such trains for public relations purposes—by providing somewhat more luxurious service than revenues on these trains will cover. Such operations apart, the remainder of the passenger business should be made to pay its way—and most people close to the business believe it can do so.

To get a large part of the red ink out of the passenger business, and start it on the road upward as a profitable "growth business," should be one of the major industry objectives for 1957. New information in the way of controls is available. Tools for reduced-cost operation are at hand. The regulatory atmosphere is favorable to constructive change. The time for concerted action is at hand.

**This 847'-8" Railway Bridge  
erected in 5 weeks  
by AMERICAN BRIDGE**



Pacific Electric Railway bridge, Los Angeles, California  
Designed by: Moffatt and Nichols, Consulting Engineers  
Contractor: Guy F. Atkinson Company  
Owner: Corps of Engineers

**T**HE RAILROAD BRIDGE shown above is just one of many built in the West in recent years by American Bridge. There is nothing unusual about this job—*not even the fact that it was erected in five weeks.* For American Bridge has the men, the equipment, and the "know-how" to handle any type and size of structural steel bridge or building with maximum speed, precision, safety and economy.

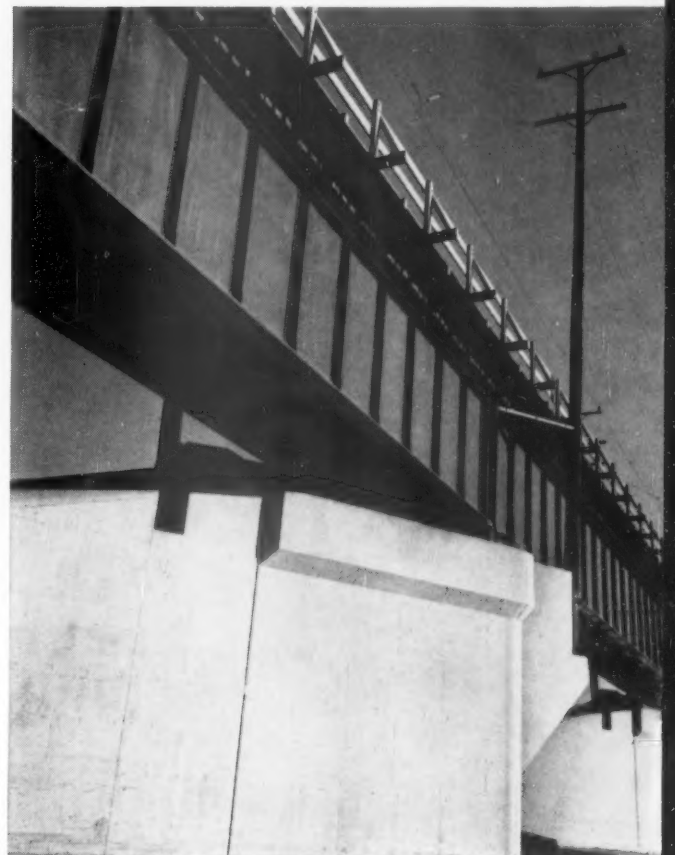
This particular structure, the Pacific Electric Railway bridge, is located between Dominiguez and Carson Streets in Los Angeles County. It is part of the Los Angeles River Improvement Project handled by the Corps of Engineers.

847' 8" long, it is made up of 7 single track plate girder spans: the first of which measures 114' 8 $\frac{1}{2}$ "; the next five, 123' 8"; and the last, 114' 8 $\frac{1}{2}$ ". 832 tons of structural steel was involved, all of which was fabricated and erected by American Bridge.

If you would like to know more about our fabricating and erecting facilities . . . and our ability to save you money in your structural steelwork, please contact the office nearest you.

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UNITED STATES STEEL



## THE TAPER MAKES TIMKEN® THE ONLY JOURNAL BEARING THAT DELIVERS WHAT YOU EXPECT WHEN YOU BUY A ROLLER BEARING

**Y**OU want two things from a roller bearing: 1) To get rid of the hot box problem, and 2) to cut operating and maintenance costs to rock bottom. Only Timken® tapered roller bearings do both. It's the taper. Here's why:

1) *No lateral movement within the bearing.* The taper in Timken bearings prevents lateral movement. There's no pumping of lubricant through the seal and out of the journal box. No scuffing of rollers and races to cause bearing wear. Timken bearings always *roll the load*, never slide it.

2) *Positive roller alignment.* Because of the taper, roller ends are held snug against the rib, where wide area contact keeps

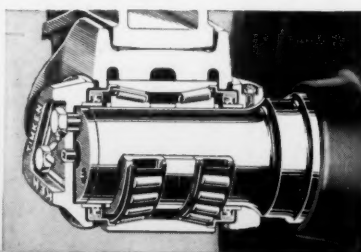
rollers properly aligned. There's no skewing of rollers to upset full line contact.

Unlike costly devices that merely act as "crutches" in an attempt to improve friction bearings, Timken bearings remove the very *cause* of hot boxes—the friction bearing itself. They also cut operating and maintenance costs to the bone. For instance, they cut terminal inspection time 90%, reduce cost of lubricant as much as 95%.

To get rid of the hot box problem and really cut operating and maintenance costs to a minimum, be sure to switch to Timken tapered roller bear-

ings. Then you can be certain you'll get what you're paying for. Remember, it's the *taper* that counts. 7 out of 10 of America's roller bearing freight cars are on *Timken* bearings. The Timken Roller Bearing Company, Canton 6, Ohio. Canadian plant: St. Thomas, Ontario. Cable: "TIMROSCO".

NOT JUST A BALL ☐ NOT JUST A ROLLER ☐ THE TIMKEN TAPERED ROLLER ☒  
BEARING TAKES RADIAL ☒ AND THRUST ☒—LOADS OR ANY COMBINATION—☒



THE TAPER MAKES

**TIMKEN**

THE BEARING  
YOU TRUST